The life-course of the low-educated in the Netherlands

Social and economic risks

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De levensloop van laagopgeleiden in Nederland

Sociale en economische risico's

Een wetenschappelijke proeve op het gebied van de Sociale Wetenschappen

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Maurice Gesthuizen, Arnhem, August 2004

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Introduction

1.1 The effects of low education on social and economic risk

This study sets out to identify and examine possible negative consequences that people may experience through being low-educated. This may sound like yet another study emphasizing the central role of education in a modern Western society, and on the one hand, this would be true. The role of education in modern society with regard to assigning people into diverse economic and social positions can hardly be underestimated, and this role therefore remains a very important topic for sociological research. On the other hand, however, this study builds upon earlier work on educational and occupational inequality and its consequences, explicitly focusing on low-educated people, as well as introducing new hypotheses. These ideas will be tested by using new data and sophisticated research techniques. In this way, the aim is to provide a clear and elaborate picture of trends in the social and economic risks that low-educated people in the Netherlands are vulnerable to, and to explain their interrelationship.

In the sociological fields of social stratification and social cohesion, the role of education in modern countries has received much attention. Over and over again, an individual's education has proven to be of major importance for the opportunities he or she will get in their lives. It is generally assumed that schooling has a positive effect on life opportunities in various ways. In the first place, it is at school that pupils are cognitively shaped, and where they learn relevant knowledge (Becker, 1964; Blau and Duncan, 1967; Mincer, 1974; Prawat, 1992). Cognitive development and knowledge stimulate a broader interest in what goes on in society (Hyman, Wright and Reed, 1975; Hyman and Wright, 1979; Wolfinger and Rosenstone, 1980; Smith, 1995) and are rewarded in various areas of life. (Pallas, 1993, 2000). Furthermore, at vocational schools, pupils learn practical skills that also positively affect opportunities on the labor market. The school environment also socializes pupils in society's dominant and liberal values (Kohn, 1969; Davis, 1979; Hyman and Wright, 1979) such as contributing to the democratic government of society, taking part in working life, and the timing of transitions to working life and family formation (Hogan, 1981; Marini, Chan, and Raymond, 1987). In addition, in the classroom, pupils meet others who can provide help later in life, and who possess resources that can enhance success in life (Lin, Vaughn, and Ensel, 1981; Lin, 1999). Low-educated people are socialized less intensively at school than the high-educated, and they are therefore more likely to receive fewer opportunities in life compared to highly qualified individuals.

Other research emphasizes that the school functions as a sorting machine for ability or trainability in general and cognitive ability in particular (Arrow, 1973). The most talented pupils get the opportunity to attend higher education, while the least talented are sorted into the lower general or vocational levels. This theory supposes that high-educated people are more successful in their lives not so much because of the knowledge they gained at school, but because of their high level of initial talent that provided them with the opportunity to attend higher education. Other theories of social stratification argue that at school, children from various social backgrounds are pre-selected, and subsequently

sorted into hierarchical educational levels. These studies therefore incorporate the role of the family of origin and argue that higher education functions as an institution in which the children from privileged backgrounds are prepared for their high standing in later life (Bourdieu and Passeron, [1977], 1990; Collins, 1971, 1979; De Graaf, De Graaf, and Kraaykamp, 2000). The low-educated are more likely than high-educated people to have disadvantaged social backgrounds, and are therefore more likely to be in vulnerable situations. In this view, education helps to preserve intergenerationally the existing inequalities between social classes.

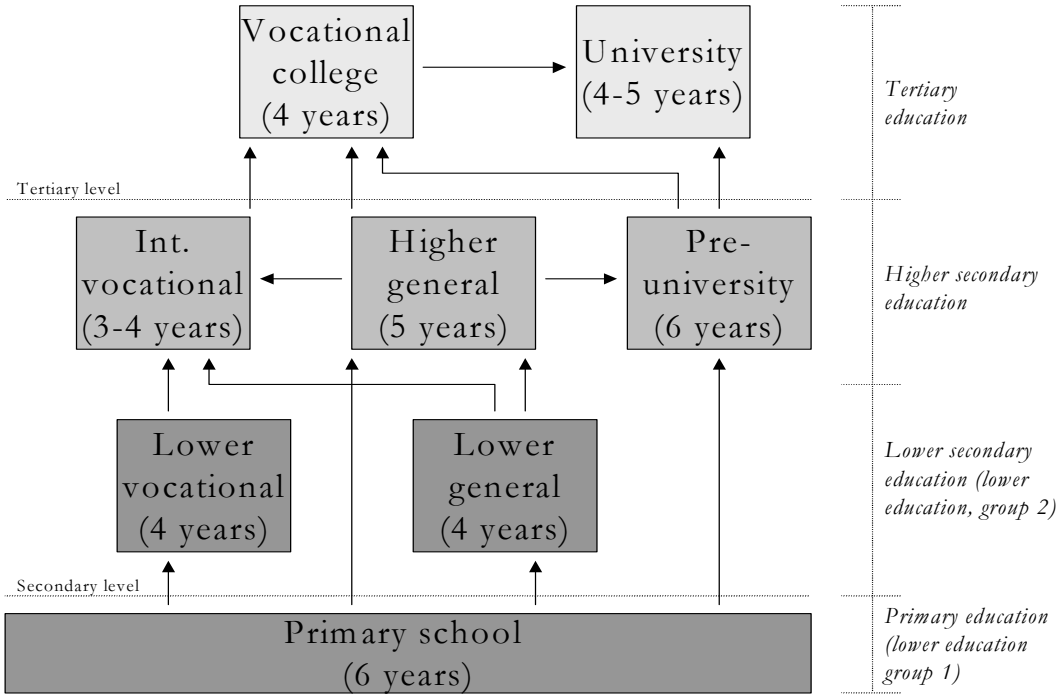
The different theoretical viewpoints discussed above share the premise that people who have received relatively little schooling receive the least economic and social opportunities. They, however, mostly regard education as an individual characteristic that linearly affects subsequent life chances. In our view, it is important to study different groups of low-educated people in order to determine non-linear relationships with economic and social opportunities. One reason for this is that the low-educated are likely to receive a disproportionately large share of the social and economic risk. The Dutch educational system can be considered to be of a categorical nature. The curricula differ greatly across educational levels, and they tend not to increase gradually in difficulty as levels get higher, but rather in nonequivalent steps. Furthermore, children enrolled in different educational levels mostly receive their schooling in geographically separate school complexes, which implies that at school, pupils mostly have contact with children of their own level. If non-linearity occurs, it is not certain how great the differences between the educational groups are, and between which educational groups the greatest differences can be found. Therefore, to study the extent to which the low-educated receive a disproportionately large share of the social and economic risk, it is vital to make a distinction between educational groups.

Figure 1.1 represents the Dutch educational system, and is helpful in determining the educational groups to which the group of low-educated belong. As in most other Western countries, the Dutch educational system distinguishes primary, secondary, and tertiary levels. Within the secondary and tertiary levels, subsequent hierarchies can also be distinguished. Although the Dutch educational system has undergone some changes in the past (Dronkers, 1993), the diagram shown is roughly applicable to all cohorts. The arrows show the horizontal and vertical steps that can be made within the system.

In this thesis, being low-educated is regarded as (1) not having gained any diploma after primary school (Dutch: basisschool) or (2) having a lower secondary general or vocational qualification (Dutch: vbo/mavo). Throughout this study, they are treated as separate categories, both belonging to the group referred to as 'the low-educated'. In 1967, Blau and Duncan argued that 'an officially sanctioned concept is that of the "dropout", the person that fails to graduate from high school. […] Thus the dropout is seen as facing "a lifetime of uncertain employment," probable assignment to jobs of inferior status, reduced earning power, and vulnerability to various forms of social pathology' (p. 164). Today, whether you are a dropout (having no diploma at the secondary level), or whether you have successfully completed a lower secondary education, both situations would be considered as insufficient, resulting in the same economic and social disadvantages. By systematically distinguishing both groups of low-educated people, and by comparing their

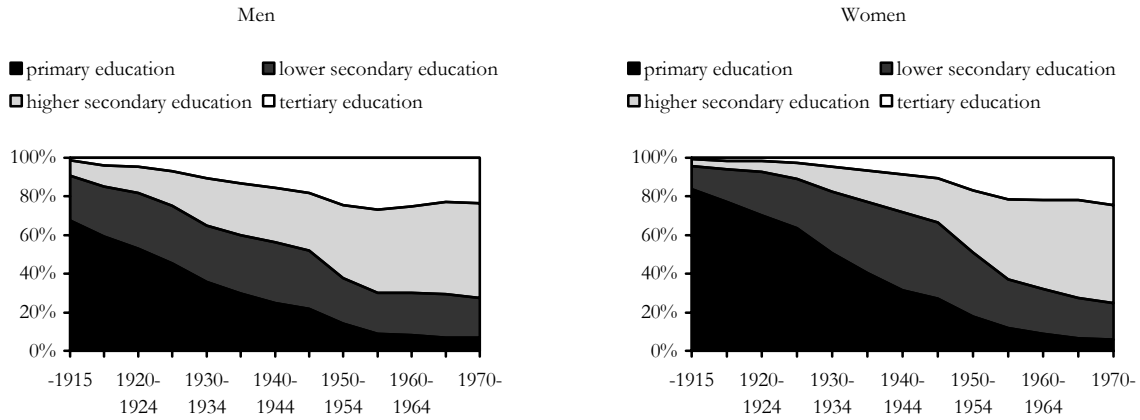
opportunities with people who have been educated at a higher secondary level—intermediate vocational (mbo), higher general (havo), and pre-university (vwo) or at a tertiary level—vocational college (hbo) and university (wo), it is possible to study the risk that the low-educated experience in economic and social life.

Figure 1.1: The Dutch educational system



A second reason to look at education in a categorical manner is the result of the educational expansion that took place in the 20th century. The age of compulsory education was gradually raised from 12 in the 1930s to 16 in the 1990s, for example. In combination with the increasingly important role of education in allocating people into social and economic positions, and with the increasing complexity of labor, the number of people attaining higher diplomas increased, as did the average duration of educational careers. Figure 1.2 shows the size of the educational groups across birth cohorts. This educational expansion, which was facilitated in the Netherlands by governmental policy and increasing welfare, has occurred in almost every Western society since the 1950s (Shavit and Blossfeld, 1993; Rijken, 1999), and opened up higher education for people from various social backgrounds. It has been a gradual process, but especially after the World War II, cohorts experienced a strong increase in the average level of education (see Figure 1.2, cohorts 1945-1959). In the period after that, however, the tendency stagnates. Figure 1.2 also shows that the educational expansion has been stronger for women. In the earlier birth cohorts, more women than men were low-educated, while in the youngest birth cohorts, women attained higher secondary and tertiary diplomas compared with men.

Figure 1.2: Cumulative percentages of the educational levels in the Netherlands across birth cohorts, for men and women



Source: Labor Force Surveys 73, 77, 85, 91, and 94 to 99, Statistics Netherlands.

This educational expansion resulted in an increase in importance of a higher level of education for life opportunities. On the one hand, this might have led to an increasing distance in social and economic risk between the low-educated group and the other educational groups. On the other hand, if the standard of what is considered a 'sufficient education' had been raised as a result of the educational expansion, the distance between the primary-educated and low secondary-educated (both considered to be low-educated in this thesis) might have become smaller. In short, it is by no means certain that over time, the differences in social and economic risk between the educational groups changed to the same degree or in the same direction for each possible comparison. It is most likely that differences between the lowest educational groups became smaller, while the differences between the low-educated and high-educated became larger. To be able to study these processes, it is important to look at educational groups instead of linear measurements of education such as years of enrollment.

Is it still worthwhile then to study the low-educated if educational expansion led to a decline in the size of this group ? The answer is yes, for two reasons. In the first place, although the size of the group of low-educated people declined drastically in the previous century, there are still large numbers of low-educated people. Of all people who belong were part of the labor force in 1999, 12.7 per cent was unqualified, and 22.7 per cent had a lower secondary diploma (CBS, 1999; own calculations). In population figures, this comes down to more than three million individuals between the ages of 25 and 65. Even in recent birth cohorts, many people can be assigned to the group of low-educated people. Of all men born after 1970, some 475,000 are low-educated. For women, the number is about 425,000. Together, these numbers equal the number of inhabitants of the city of Amsterdam. We can conclude therefore, that there is still a very substantial group of people facing difficulties in economic and social life, as a result of their lack of qualifications.

The second reason why it still is worthwhile to consider the social and economic risk of the low-educated, is that what society's definition of 'insufficiently qualified' is susceptible to change. In the decade following the Second World War, a low vocational diploma was a guarantee for attaining a specialized job, and not even having any diploma was not that unusual. Nowadays, people with such educational levels encounter serious problems in attaining a prestigious position, or even a position at all, in the labor market. Low-educated people nowadays are believed to belong to a more distinctive group, and possibly experience more negative consequences from their lack of qualifications than was the case some decades ago. In other words, low secondary-educated individuals might also be stigmatized as 'low-educated', at least more so than in the past.

We will not address differences between ethnic groups in this study, nor will we study differences between ethnic minorities and the native majority. The primary reason for this is that the criteria for allocating people into economic and social positions differ greatly between ethnic minorities and Dutch people. For people from ethnic minorities, for instance, discrimination and not having adequate Dutch language skills seem important, while for the native population this is less influential. Another reason is that it is very likely that many people from ethnic minority groups went to school outside the Netherlands, at least for some of the time. We are dealing here with the incomparability of the educational systems of the Netherlands—or other Western countries for that matter—and what people learn at schools in the countries from which most of the ethnic minorities in the Netherlands originate (Morocco, Turkey, Surinam, and the Dutch Antilles). In other words, it is difficult to compare ethnic minorities with the native population with regard to the skills they learn at school, the norms in which they are socialized, and the knowledge they receive, if a part of their socialization at school happened in their country of origin. Theoretically incorporating these ideas and empirically examining them, would mean creating a completely new study. And particularly with regard to social outcomes and native language skills, there is not enough information available.

Nevertheless, including ethnic minorities when studying social and economic risks should be an important part of the future research agenda. Although the inability to address this topic can certainly be seen as a limitation of this study, this does not mean that it is not justified to study only Dutch low-educated people. First of all, it has already been shown how large this group was and still is. By far the largest part of this group of low-educated people still belongs to the Dutch majority. In 1998, about 22 per cent of all primary educated persons in the Netherlands belonged to an ethnic minority group. In 1977, this number was much lower: 5 per cent. The problems associated with having a low level of education is still mostly a problem concerning the majority native Dutch population. And since all people in this study were born before 1980, they grew up in times when migration was still uncommon. Therefore, we will only study Dutch low-educated people, and answer the following descriptive, trend, and explanatory research questions to gain insight into their experience of social and economic risk:

To what extent do the low-educated experience more social and economic risk than the high-educated in the Netherlands?

To what extent has the difference in social and economic risk between the low-educated and high-educated in the Netherlands increased across birth cohorts and over the life course?

How can the difference in social and economic risk between low-educated and high-educated people in the Netherlands be explained?

1.2 Social and economic risk

The long history of status attainment and mobility research has shown that the higher one's education, the more likely one is to enter the ranks of the professional classes, and to have an occupation with a high status (Lipset and Bendix, 1959; Blau and Duncan, 1967; Collins, 1979; Ganzeboom, Treiman and Ultee, 1991). A common explanation as to why education enhances labor market success is that education increases productivity (Becker, 1964). Therefore, employers screen on educational attainment to attract the most productive workers (Arrow, 1973). High-educated people end up higher on the employer's list of potential employees (Thurow, 1975; Wolbers, 1998), which increases their chances of being selected. Conflict theories (Bourdieu, 1973; Collins, 1979) argue that social inequality is intergenerationally transmitted through education. Children from advantaged social backgrounds attain the highest levels of education, and employers subsequently hire the highest educated individuals.

In a labor market where qualifications play an important role, those without qualifications, or with relatively low qualifications, are believed to have the least labor market success. However, an explicit focus on the negative economic position of low-educated people has been rather uncommon because the common perspective is that education is a characteristic that linearly affects labor market success. Consequently, the focus has shifted from the lowest part of the educational distribution. It could be that the people with the lowest education are a clearly distinctive group in terms of lacking labor market success. This study will investigate whether this is the case. We will therefore describe and study trends in the lack of labor market success of the low-educated. Furthermore, explanations of economic risk, which are based on theories of selection and allocation, will also be examined. In this study, labor market outcomes such as employment, non-employment, occupational status, upward mobility, and downward mobility will be addressed. It is important to examine the economic risk for men and women separately. Women are more likely to be non-employed than men, attain positions with a lower status, and earn lower incomes (Hooghiemstra and Niphuis-Nell, 1993; Kraaykamp and Kalmijn, 1997; Keuzenkamp and Oudhof, 2000; De Ruijter, Van Doorne-Huiskes and Schippers, 2003). These differences arise because women make other decisions, and face different restrictions with regard to labor participation than men.

There are many explanations for gender differences in labor market participation and attained job level. Gender differences in human capital (educational attainment and work experience), which result in differences in labor productivity, could lead to less labor market success for women compared to men (Schippers and Siegers, 1988; Kalmijn

and Van der Lippe, 1997). Women on average have less straightforward labor market careers and invest less in courses and training than men, because on average women invest more time in the family than men do (Roos, 1981; Kraaykamp and Kalmijn, 1997). Women might choose to leave the labor market altogether, or to have a job that allows them to combine work and care, for instance a less prestigious job or a part-time job. This might particularly be the case if the partner has a high enough income. Another relevant aspect is that women are more likely than men to be working in relatively disadvantageous labor market segments (Glebbeek; 1993). Finally, discrimination of women in the labor market might also play a role. All these arguments indicate that it is important to study economic risk for women and men separately. Another argument to separately consider economic risk for men and women is that work-related decisions differ between low-educated men and low-educated women. For low-educated women, an alternative route to compensate unfavorable labor market opportunities is marriage, and caring for the household and children. For low-educated men, this alternative route might still be unavailable. Moreover, the secondary earner hypothesis argues that women from lower social classes are more likely to work if the financial household situation is strained (Hakim, 2000, 2002; Blossfeld and Drobnič, 2001). Furthermore, since the educational expansion for women differs from the educational expansion for men, trends in economic risk for low-educated women might differ from the trends found for low-educated men. Therefore, this study accounts for gender differences in economic risk by estimating each empirical model with regard to labor market success for women and men separately.

Social stratification literature also refers to non-economic consequences of educational inequality. Education for instance is an important predictor for health (Mackenbach, 1992; Monden, 2003), and life-style differentiation (Bourdieu, 1984; Ganzeboom, 1988; Kraaykamp, 1996; Kraaykamp and Nieuwbeerta, 2000; DiMaggio, 2001). The higher one's education, the more healthy one is, and the more leisure time is spent on activities such as reading and cultural participation. Healthy people, and people who are culturally active, gain more opportunities to do well in life than unhealthy and culturally inactive people. Again, stratification research rarely explicitly focuses on non-economic consequences for people who lack qualifications. This book shifts the focus to the social risk that the low-educated experience, and thereby makes a contribution to filling this lacuna. Social risk will be indicated by the level of commitment that low-educated people express towards society.

A relevant field of research on deprivation emphasizes the link between labor market precariousness and social exclusion (Benoit-Guilbot and Gallie, 1994; Gallie, Marsh and Vogler, 1994; Paugam, 1996; Gallie, 1999; Gallie and Paugam, 2000; SCP, 2000; Gallie, Paugam and Jacobs, 2003; Nordenmark, 2003; Jehoel-Gijsbers, 2004). This line of research shows that not having a job, having a temporary job, or in general, occupying a disadvantageous position in the labor market, results in people losing ties with society in general and with their direct social environment in particular. Groups that are prone to be marginalized economically run higher risks of becoming socially excluded. Although in this line of research education is often accounted for, low-educated people as such are not regarded as belonging to a specific group that runs a high risk of experiencing social exclusion. There have been no attempts to explain the risk of social

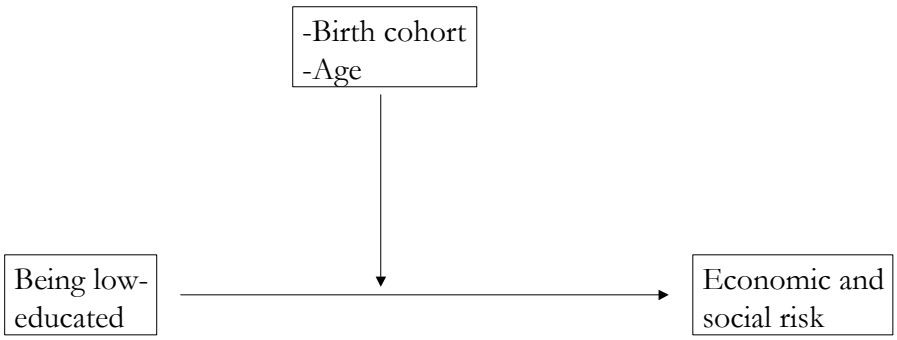
marginalization that low-educated people might experience, while using their lack of labor market success as an intermediating variable.

This study investigates the extent of social marginalization that low-educated people experience, by looking at their level of social commitment. It could be that the group of low-educated is clearly distinctive from other educational groups in terms of social precariousness. Therefore, it is important to evaluate the size of the problem at hand. Furthermore, we will also examine trends in social risk of the low-educated, and provide a selection and a lack of resources hypothesis to explain the social risk of low-educated people in the Netherlands.

1.3 Changes in social and economic risk of low-educated people

Since a description of low-educated people's lack of labor market success as well as their social commitment has been uncommon thus far, trends in social and economic risk have received even less attention. It is important to consider trends in social and economic risk, since if low-educated people increasingly lose ties with the labor market and the social market, processes of marginalization of the low-educated may contribute to the formation of an underclass.

Figure 1.3: Schematic presentation of birth cohort trends and life-course changes



In this study, two kinds of perspectives with regard to changes will be applied: the birth cohort perspective and the life-course perspective. According to the birth cohort perspective, the negative impact of having a low education on labor market success and social commitment is stronger for people born in later birth cohorts than for people born

in earlier birth cohorts. The life-course perspective argues that the negative impact of a low education becomes stronger as one grows older. Figure 1.3 is a schematic presentation of both perspectives of change.

Two new aspects related to the application of both perspectives on change are worth mentioning. First of all, there is relatively little research into changes in differences in labor market success and social commitment between low- and high-educated people. Most studies that have considered trends concerning the impact of education on occupational outcomes employed linear measurements of education, and subsequently only overall changes in the association were assessed (De Graaf and Luijkx, 1992; Ganzeboom, Kalmijn and Peschar, 1995). It has been shown that in the Netherlands, individual achievement in terms of educational attainment in years has become increasingly important for determining labor market success. Although this result implies that educational differences in labor market success have grown across cohorts, the linear measurement of education in years makes it difficult to draw conclusions for the low-educated in particular. It has also been shown that over time, labor market returns of lower qualifications decreased at a stronger pace than the labor market returns of higher qualifications (Shavit and Müller, 1998). There seems to be an increasing difference in labor market success between educational groups, but a specific focus on the group of low-educated people has not been applied. Moreover, job level is the occupational outcome that is typically considered. Therefore, these studies disregard the possibility of unemployment, upward career mobility, and downward career mobility. Also, in these studies, a career perspective has not been applied. This study investigates this broader range of occupational outcomes for low-educated people in particular, and looks at birth cohort trends and life-course changes.

Some studies have looked at differences in ways of expressing social commitment between low- and high-educated people, as well as at changes in these differences (SCP, 1992, 2003; De Graaf, 1996; Kraaykamp, 1996). It has been shown for instance that across birth cohorts, low-educated people become increasingly less likely to vote in parliamentary elections compared to high-educated people, and that compared to high-educated people, low-educated people take part in voluntary work increasingly less often. No trends were found in educational differences concerning the reading of newspapers. In the studies mentioned, only ad hoc explanations for the trend were proposed, or theoretical expectations were formulated focusing on the group of high-educated people. This study builds upon these studies by adding societal organization membership and political interest to the list of indicators of social commitment, and by formulating expectations from the perspective of the low-educated.

A second advancement of this study is that the available data made it possible to simultaneously study birth cohort and life-course effects in social and economic risk. In single cross-sectional or in repeated cross-sectional surveys, age and birth cohort are often intermingled. The inability to simultaneously take account of both aspects can therefore lead to erroneous conclusions. Since the Family Survey Dutch Population 2000 (De Graaf, De Graaf, Kraaykamp, and Ultee, 2000) contains individual histories in labor market success and social commitment for people from different birth cohorts, life-course developments are separable from trends over time. For social commitment, this research

design is quite innovative. By making use of event history and multilevel models, it is not only possible to study changes within a broad range of indicators of social and economic risk, but also to study processes of social and economic risk during the life-course, controlled for developments across birth cohorts, and to study trends towards increasing or decreasing social risk over time, controlled for life-course developments

The social and economic risk of low-educated people might have increased for at least two reasons. The first is based on structural changes in Western societies, while the second also incorporates qualitative changes within the group of the low-educated. First, according to the structural argument, education can be considered a positional good (Hirsch, 1977, Ultee, 1980; Wolbers, 1998), which means that the value of an individual's education depends on how many other people attained the same educational level or a higher one. If employers, who will typically select the highest educated individuals because of their expected productivity, have a large pool of high-educated people to select from, low-educated people stand a lower chance of being selected. Because of the massive educational expansion that has taken place in recent decades (Hauser and Featherman, 1976; Shavit and Blossfeld, 1993; Rijken, 1999), the relative position of low-educated people has deteriorated, leaving them with ever-decreasing labor market opportunities. The key role of education probably does not limit itself to economic aspects of life. A decline in the size of the group of low-educated people has resulted in them becoming more distinctive and more visible as unqualified, which might negatively affect their social situation. Low-educated people might experience more difficulties nowadays in joining in social activities, which probably results in a lower level of social commitment.

Second, the qualitative argument incorporates compositional changes of the group of low-educated people in the explanation of a possible trend toward economic and social marginalization. As the size of the group of low-educated people declines over time, the composition of the group is also likely to change in a detrimental way. In society, people are judged on the basis of characteristics such as social background and cognitive ability. People with the highest cognitive ability, and who originate from relatively advantageous social backgrounds have the opportunity to gain diplomas. The group of low-educated people that remains over time or during the life-course, might therefore be composed increasingly of people who score low on social background (Solga, 2002) and cognitive ability. Furthermore, the dispersion of the distributions of social background and cognitive ability might also have narrowed. That is, the group of low-educated might have become more homogeneous. As a result of the decrease in advantageous attributes within the group of the low-educated, economic and social opportunities might have become increasingly limited for low-qualified individuals.

It is important to note that structural processes and the compositional changes can be assumed to work across both birth cohorts and over the life-course. Old, relatively low-educated cohorts are replaced by new cohorts in which schooling is considered more important. As a result, the group of low-educated people becomes smaller and more selective over time. It is also possible to attend courses during the life-course, which implies that the group of low-educated becomes even smaller as people grow older. If the most talented people and the individuals from the most advantageous origins are most likely to gain additional qualifications after leaving full-time education, the group also

undergoes an increasingly negative selection with increasing age. In order for social and economic risk to grow, we assume that both processes are at work. It can also be argued that the disadvantage that low-educated people experience does not increase during the life-course, but actually decreases. Research has shown that later in one's occupational career, education becomes less important for the prediction of someone's job level (Blau and Duncan, 1967; Hendrickx and Ganzeboom, 1998; Warren, Hauser and Sheridan, 2002). A common explanation for this finding is that with increasing work experience, education becomes a less influential indicator for employers when estimating a worker's productivity level.

To gain insight into the changes that occur across birth cohorts and the life-course, this study investigates both whether the low-educated have less labor market success in times when many people are high-educated, and the extent to which people actually attain qualifications during their occupational career. Furthermore, we will also study changes in the association between education on the one hand, and cognitive ability and social background on the other, as well as processes of selective outflow with regard to these individual characteristics. In addition, birth cohort trends and life-course changes will be modeled for social and economic risk, using estimation techniques in which both perspectives on changes can be incorporated simultaneously.

1.4 The explanation of individual relationships between education and risk

In this study, hypotheses will be tested to answer the question of why low-educated people experience economic or social risk. This provides new insights concerning which factors promote or counterbalance social and economic risk. Therefore, the findings can be relevant for policymakers who are concerned with problems of social risk, and who have to implement policies that enhance the situation of citizens who experience difficulties in economic and social life. This study contains two kinds of explanations. First, the relationship between education on the one hand and social and economic risk on the other might be partly or wholly spurious, because they can be explained by a common cause. Second, there might be factors that intermediate the relationship between education on the one hand, and social and economic risk on the other.

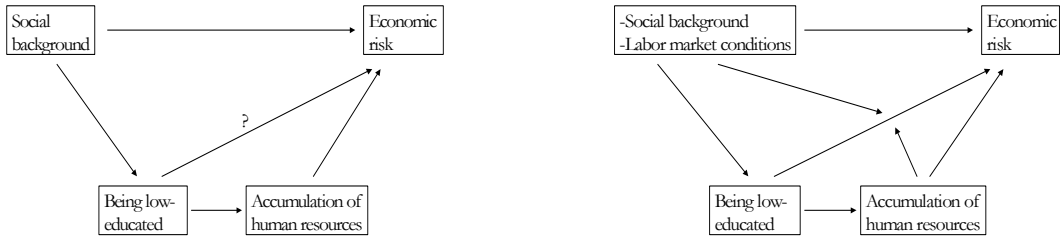
We start out by determining the magnitude of the effect of education on social and economic risk that can be attributed to factors that determine both educational attainment and social and economic risk. It is likely that the relationships between education on the one hand, and labor market success and social risk on the other, are partly spurious. Characteristics of the family of origin can directly influence labor market success and social commitment, as well as indirectly through educational attainment. In other words, a disproportionate share of the group of low-educated people have social backgrounds where a lack of labor market success and a lack of social commitment is directly transmitted from parents onto children. Thus, before the impact of a low education on economic outcomes and social commitment can be interpreted properly as an effect of education, social background influences have to be eliminated.

For the expected difference in both social and economic risk between the low-educated people and high-educated people, this study will investigate the extent to which intermediating factors reduce the difference initially found in social and economic risk. For both outcome variables, the explanation consists of two parts. First, we will introduce arguments that explain educational differences. Second, arguments will be provided explaining why it is more important for low-educated people to have additional resources than for high-educated individuals.

Labor market success largely depends on whether employers are willing to hire persons with certain characteristics. The more these characteristics show someone's productivity potential, the higher the willingness to employ them (Arrow, 1973; Thurow, 1975; Wolbers, De Graaf and Ultee, 2001). It could be that during their life-course, low-educated people are less likely to produce and accumulate additional human capital than high-educated people, which makes them less attractive for employers. The additional human capital looked at in this study are cognitive ability, which is measured using a verbal ability score, and additional formal training.

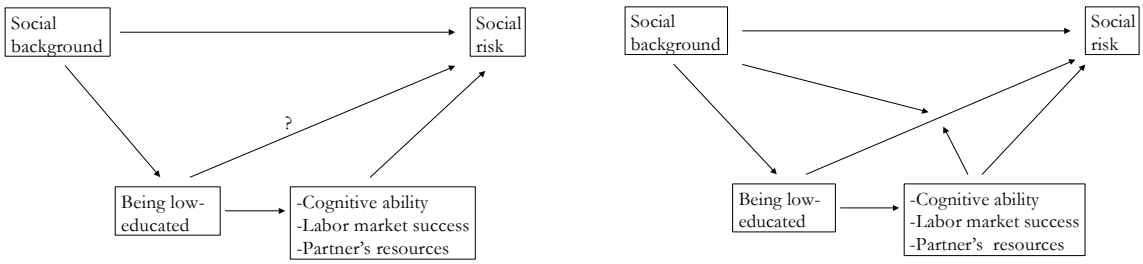
For high-educated individuals, their qualifications function as the most important signal for employers when estimating their productivity level, particularly at the start of their occupational career. By completing a relatively difficult course of education, individuals 'prove' that the risk of hiring them is relatively low. Low-educated people do not transmit this positive signal, and therefore need other resources to gain a positive judgment from employers. In other words, it probably is more important to have additional human capital for people with low qualifications, than it is for individuals who left school with a high level of education. It can therefore be expected that low-educated individuals will compensate their lack of qualifications through other forms of human capital, not only compared to low-educated people who do not have this additional human capital, but also compared to high-educated individuals. It has already been argued that for high-educated people, social background does not matter when considering someone's labor market success, while a lack of labor market success is less likely if a low-educated person has an advantageous social background (Hout, 1988). Generally speaking, the resources that low-educated people have access to other than their own education possibly enhance their labor market success. We will study whether social background, additional human capital, and advantageous labor market conditions have a stronger impact on the occupational career of low-educated people than on the occupational career of high-educated people. Figure 1.4 explains educational differences in labor market success, and the expected interactions between education and other factors.

Figure 1.4: Explaining economic risk and interactions



A similar resource explanation can be used for social risk, but it is now possible to incorporate labor market success in the list of explanatory variables. In this way, the idea that economic risk leads to social risk (Gallie, 1999; Gallie, Paugam and Jacobs, 2003) is introduced as an explanation for the precarious social situation of low-educated people in the Netherlands. Furthermore, it can be reasoned that a relatively low level of cognitive skills and the absence of a resourceful partner leads to a lower level of social commitment for low-educated people during their complete life-course. In short, a lack of the three kinds of resources mentioned could lead to processes of selection and self-selection that result in a higher propensity for the low-educated to become socially excluded. For low-educated people to be socially committed, it could be more advantageous to have access to certain resources than for high-educated people. Figure 1.5 shows in a schematic manner the explanation and interaction hypotheses that will be tested in this study.

Figure 1.5: Explaining social risk and interactions



1.5 Data sources

For the purpose of monitoring the Dutch economic situation at the individual level, Statistics Netherlands (CBS) has gathered large-scale cross-sectional data on the labor market activities of Dutch citizens belonging to the potential labor population. For this study, the labor force surveys (LFS) of 1973, 1977, 1985, 1991, and 1994 to 1999 (CBS, several years) are used. These datasets are representative for members of the non-institutionalized population having a fixed place of abode and belonging to the labor population. The definition used for the labor population is quite broad. Working and unemployed people, and people in the military services belong to the strict labor population. Students, housewives, and disabled people who perform work in addition to their main activity, or who are looking for work are also included in the samples. Until 1985, written questionnaires were used, whereas since 1991, Computer Assisted Personal Interviews have been held. Furthermore, since 1991, information was gathered on a monthly basis. During these interviews, respondents were asked whether they performed work and if so, to provide some characteristics of the job. Furthermore, the year of birth of the respondents and their exact highest attained educational level is known.

The Family Surveys Dutch Population (FSDP) 1992/1993, 1998, and 2000 (Ultee and Ganzeboom, 1993; De Graaf, De Graaf, Kraaykamp and Ultee, 1998; De Graaf, De Graaf, Kraaykamp and Ultee, 2000) were organized by the Department of Sociology of the University of Nijmegen, and are based on a representative sample of the non-institutionalized Dutch population between age 18 and 70. These datasets will be used for the analyses in which the incorporation of more information is required. A random sample was drawn from the registers of a stratified sample (on the basis of region and urbanization) of Dutch municipalities, and the respondents were interviewed using a computer-based face-to-face questionnaire, and a self-completion questionnaire. Both primary respondents and—if not single or widowed—their partners, were asked exactly the same questions. A large majority of the questions contain retrospective information on educational, occupational, marital, and social careers. Although the response rates are not very high (42, 47, and 41 per cent), non-response analyses have shown that the samples reflect the Dutch population quite well. An important reason for the relatively low response rates is that both partners had to be interviewed successfully to be counted as a completed interview.

1.6 Methods of analysis

The labor force surveys contain a large number of cases, which makes it possible to perform very powerful regression analyses and to determine very precisely the relation between education and labor market success. Furthermore, combining all information in one dataset makes it possible to reliably track developments over time for the diverse educational groups. The most important analyses that will be performed with these datasets are trend analyses, using linear and logistic regression techniques. A disadvantage of these datasets is that they do not contain much substantial information other than

educational level, occupation, and some other individual characteristics. Therefore, they cannot be used to study the association between education on the one hand and social background and cognitive ability on the other. Moreover, changes in the composition of the group of low-educated people with regard to these individual characteristics can not be studied with these data. To answer these questions the FSDPs of 92/93, 1998, and 2000 are used.

The retrospective nature of the FSDP data enables the use of event history models (Allison, 1984; Yamaguchi, 1991). The models used in this study are based on a discrete notion of time, and are appropriate for modeling the occupational career of low-educated people. Another advantage of event history models in general is that, since they are based on person-periods, time-varying variables can be included as predictors in the regression equation. As a result, causal explanatory models can be estimated accurately. For this purpose, in the 2000 survey, specific retrospective questions were included to record the respondent's histories in attending classes and courses after finishing their formal educational career. Moreover, retrospective questions with regard to social commitment were included, making possible simultaneous modeling of birth cohort trends and life-course changes in social risk. The modeling of occupational careers is done using event history models (Allison, 1984; Yamaguchi, 1991). Careers in social commitment are studied using multilevel models that have been developed for the repeated measurements analysis (Snijders and Bosker, 1999).

An innovation related to the FSDP2000 is that it includes a measure of cognitive ability, which is based on the survey measure of verbal ability that is also present in the US General Social Surveys (Alwin, 1991; Alwin and McCammon, 1999). The incorporation of this measure of cognitive ability makes it possible to disentangle educational effects from cognitive ability effects. In addition, it can also be used to study compositional changes of the group of low-educated people. The disentanglement of education and cognitive ability will be done using (OLS) regression techniques, and in the case of the study of compositional changes, marginal values of cognitive ability for the educational groups will be determined across birth cohorts.

1.7 Outline of the dissertation

The first empirical chapter of this study, *chapter 2*, has three aims. The first is to determine labor market success (employment and occupational status) of low-educated men and women through the use of the large scale LFSs (Statistic Netherlands, 1977 to 1998). The second aim is to look at general trends in the effects of being low-educated on labor market success by estimating the difference between low- and high-educated men and women for successive years of measurements and for different age groups. And the third aim is to determine whether, and to what extent, low-educated people's labor market success has decreased as a result of the educational expansion that has taken place. This chapter therefore provides a broad picture of the economic situation of low-educated people in the last two decades of the 20th century, and provides an initial answer to the question of why their position might have deteriorated. These aims are summarized in the

following research question: (1) *To what extent have low-educated men and women in the Netherlands experienced decreasing labor market success between 1977 and 1998, and to what extent can the decrease in labor market success be attributed to an increased number of high-educated individuals?*

Chapter 3 first tries to determine the level of, and trends in, cognitive ability of the group of low-educated people, and investigates changes in the relationship between education and cognitive ability, and in the composition of educational groups with regard to cognitive ability. Moreover, social background characteristics are also related to cognitive ability, to study whether the effect of education is partly spurious, and to determine the direct effects of social background on cognitive development. The most important aim of this chapter is to answer the question of whether a trend towards increasing social and economic risk might be expected as a result of a changing composition of the group of low-educated people. The following research questions will be answered in chapter 3: (1) *To what extent does educational attainment affect verbal ability?* (2) *To what extent have the effects of educational attainment on verbal ability changed, and to what extent has the group of low-educated people become more homogeneous in verbal ability across birth cohorts?*

Chapter 4 serves the same purpose as chapter 3, but this time with respect to social background. Three FSDPs (1992, 1998, and 2000) are combined to study changes in association of several measures of parental background with education, and compositional changes within the group of low-educated people with regard to these social background factors. Here, event history models are used to study a specific measurement of being low-educated: dropping out of school without having gained any qualification. The following research questions will be answered in chapter 4: (1) T*o what extent do parents' economic, cultural, and socio-demographic resources affect the risk of leaving school without a qualification in the Netherlands, and to what extent have the effects of parents' economic, cultural, and socio-demographic resources on the risk of leaving school without a qualification in the Netherlands changed over time?* (2) *To what extent has the group that leaves school without a qualification in the Netherlands become more or less selective on parental economic, cultural, and socio-demographic resources?*

In *chapter 5*, the economic risk that low-educated people experience is studied using event history models. In this chapter, a descriptive, a trend, and an explanatory question are combined and are answered using nested models. We study whether the economic situation of low-educated people has worsened across birth cohorts and over the life-course, and investigate the extent to which the lack of labor market success can be attributed to originating from a disadvantageous social background, and to a lack of additional resources. The following research questions will be answered in chapter 5: (1) *To what extent does labor market success differ between low-educated people and high-educated people?* (2) *to what extent can the difference in labor market success between low-educated people and high-educated people be explained by differences in human capital, and by taking social background into account?* (3) *To what extent has the difference in labor market success between low-educated and high-educated people grown during the life-course and across birth cohorts?* (4) *To what extent are the effects of social background, human capital, and labor market conditions stronger for low-educated people than for high-educated people?*

In *chapter 6*, the subject of study is the social risk of low-educated people. In this chapter, multilevel models for repeated measurements will be used. This chapter has the same aim as chapter 5, but this time for the outcome of social commitment. Consequently, the research questions are very much alike: (1) *To what extent is there a difference in social commitment between low-educated people and high-educated people in the Netherlands?* (2) *To what extent does the difference in social commitment between low-educated people and high-educated people in the Netherlands become larger across birth cohorts and over the life-course?* (3) *How can the difference in social commitment between low- and high-educated people in the Netherlands be explained?* (4) *To what extent is the effect of social background, human capital, labor market resources, and partner's resources on social commitment stronger for low-educated people than for high-educated people?*

Table 1.1 shows the outline of this study on the basis of an overview of the empirical chapters 2 to 6. Chapter 7 will reflect on the findings in a conclusion and discussion.

Table 1.1: Outline of this study

Chapter	Outcome variable	Aim of the chapter	Data sources	Methods of analysis
Chapter 2	Employment and occupational status	Describing (trends in) a lack of labor market success and testing the structural hypothesis	Labor Force Surveys 1977, 1985, 1991, 1994 to 1998	Logistic and Ordinary Least Squares regression
Chapter 3	Cognitive (verbal) ability	Changes in the association between education and cognitive ability, and compositional changes of the group of low-educated people	Family Survey Dutch Population 2000	Ordinary Least Squares regression and determination of marginal values
Chapter 4	Dropping out without a qualification	Changes in the association between education and social background, and compositional changes of the dropout group	Family Survey Dutch Population 1992/'93, 1998, and 2000	Discrete Time Event History regression
Chapter 5	Unemployment, upward mobility, and downward mobility	Describing and explaining (trends in) a lack of labor market success of low-educated people	Family Survey Dutch Population 2000	Discrete Time Event History regression
Chapter 6	Social commitment (electoral participation, political interest, reading newspapers, voluntary work for local organizations, and membership of societal organizations)	Describing and explaining (trends in) a lack of social commitment of low-educated people	Family Survey Dutch Population 2000	Multilevel regression for repeated measurements

Chapter two

Labor market success of the low-educated in the Netherlands between 1977 and 1998•

Summary

This chapter addresses structural, life-course, and economic situation hypotheses on the developments in the labor market success of low-educated people in the Netherlands. A stacked data set of large-scale labor force surveys collected by Statistics Netherlands (CBS) is used, ranging from 1977 to 1998 (N=605,042 respondents). Indicators of labor market success are employment and job level. We found evidence that, compared to the highest educated men, young low-educated men participate less on the labor market. This educational effect becomes even stronger in periods in which many people gained higher qualifications. Low-educated women of age 25 to 44 have also experienced an increase in economic risk. Here, it is not increased competition that is the main cause, but probably traditional family values. For occupational status however, no evidence was found that the low-educated are increasingly facing disadvantages over time. Adverse economic conditions do increase the disadvantages for the youngest low-educated men and women (age 18-24). Although signs of marginalization are found for relatively young low-educated men and women, as well as for middle-aged low-educated women, the structural explanation is only confirmed for lower educated young men and lower secondary educated women of most age groups. For them, increased competition from the high-educated made it more difficult to find a job.

2.1 Introduction

Sociological research into social inequality and social mobility has a long history with regard to studying the impact of education on labor market success. In the 1960s, Blau and Duncan (1967) concluded on the basis of their innovative—and by now classical—status attainment model that in the United States, educational level was the most important predictor for someone's attained occupational status; it proved to be much more important than social background. Replications in other times and in other Western countries, as well as extensions of the basic status attainment model, have only further confirmed this conclusion (Shavit and Müller, 1998). Dutch research has also shown that educational attainment is the strongest predictor of an individual's labor market success (De Graaf and Luijkx, 1993; Wolbers, 1998).

This chapter examines the labor market success (or lack of it) of the low-educated in the Netherlands between 1977 and 1998. For this purpose, we analyze repeated large-scale labor force surveys of Statistics Netherlands, and mostly concentrate on the negative consequences that the low-educated might have experienced as a result of the massive educational expansion that has been going on since the 1950s. The percentage of low-educated people on the Dutch labor market has declined steeply in the period under review. In 1998, only 13 per cent of the population between 18 and 65 that had successfully completed formal education did not have any secondary or higher qualification (EBB, 1998), and another 24 per cent of the population gained only a lower secondary vocational or general qualification. In 1977, the percentage of low-educated

• A different version of this chapter has been published as an article in *Mens & Maatschappij, 77* (2002), pp. 189-206. The co-author is Paul M. de Graaf.

people was much higher; 41 per cent of the population between age 18 and 65 did not gain any qualification after completing primary education, and 34 per cent had a lower secondary qualification. Although there has been a steep decline in the number of low-educated people, a substantial part of the Dutch society still belongs to this group. One in three still is lower educated.

It is only since the 1960s that married women have started to become active in the labor market, and even now, most women leave the labor market or reduce their working hours once they have children (Keuzenkamp and Oudhof, 2000). For this reason, this chapter studies the developments in the labor market success of women separately from those of men. There are of course other reasons for specifically considering labor market careers of women. According to the 'additional/secondary worker' hypothesis for instance, traditional women are only inclined to work if the household's financial situation is strained (Hakim, 2000, 2002; Blossfeld and Drobnič, 2001). They are more home-centered, underscore traditional family values, and are more likely to be in the lower social classes. Therefore, labor market participation of women does not always indicate a successful career, while for men this generally does seem to be the case. In general, developments in labor market success of women are more likely to follow the pattern of emancipation and increasing welfare, and less likely to be determined by educational expansion. Although low-educated women will also be affected by the educational expansion, the impact might be less strong than for men.

The labor market success of ethnic minorities is not an area that will be treated in this study. Factors such as discrimination, difficulties with regard to integration, language problems, and other kinds of ethnic-specific factors, like the school attended in the country of origin and maybe even illiteracy, contribute to the problems that ethnic minorities experience in their working lives. Since these factors are so specific to ethnic minorities, we have chosen not to study their labor market opportunities in this book. However, it must be acknowledged that an increasingly larger part of the group of low-educated people belongs to ethnic minority groups. In future research, it is therefore very important to address labor market success of ethnic minority groups. Figures show that in 1998, 27 per cent of all ethnic minorities did not gain any qualification after primary school, while for the Dutch majority this figure was 11 per cent. On the other hand, of all persons without a qulaification in 1998, only 17 per cent belongs to an ethnic minority group, a percentage that is still relatively low.

There are at least two important reasons for arguing that the decrease in the number of low-educated people has led to less labor market success for the low-educated in the Netherlands. First, the competition in the labor market might have become stronger, because education can be considered to be a positional good: the relative value of a qualification declines if more people gain the same qualification or a higher one (Hirsch, 1977; Ultee, 1980; Wolbers, 1998). In this case, not having any qualification is the worst position one can be in. Second, the composition of the group of low-educated people might have changed in a negative manner. Nowadays, it might be composed of more people with a relatively low level of cognitive ability than in the past (Van Heek, 1968; De Vries, 1993).

This chapter will indicate labor market success (or a lack of it) of the low-educated through their participation in working life and through the occupational status of the job, if they do participate. Two groups of low-educated people will be distinguished to be able to provide a differentiated picture of their economic risk: people who did not gain any qualification after primary education, and people who did not gain any qualification higher than lower secondary vocational or lower secondary general education. We expect that the unqualified experience the most negative consequences of the educational expansion, and that the labor market opportunities of the lower secondary qualified are comparable to the lack of labor market success of the unqualified.

The models that will be presented later in this chapter complement earlier research on labor market displacement (De Beer, 1996; Wolbers, 1998) in four ways. First, we specifically focus on a group within society that probably suffers the most from the trend toward increasing displacement: the unqualified and the lower secondary qualified. Second, we do not only address job level, but also the probability of having a paid job. Wolbers (1998) limited his study to the transition from employment to unemployment and vice versa, but inactivity does not limit itself to unemployment. Other categories, such as the disabled and other inactive persons, might also be economically vulnerable. Third, this study contains an explicit test of the hypothesis that the deteriorating position of the low-educated can be ascribed to educational expansion. And finally, we estimate models for men and women separately, so that we are able to track developments in labor market success for both low-educated men and low-educated women. In this way, it becomes clear whether displacement arguments can be generalized to both sexes, or whether specific models are necessary.

2.2 Theory and hypotheses: developments in economic risk of the low-educated

In most sociological studies that address the importance of educational attainment with regard to labor market outcomes, scholars seem to assume that the impact of one extra year of education is equivalent for the complete educational distribution. However, Wolbers (1998) has shown that the differences in labor market success between people from diverse educational categories are not similar, and do not change similarly over time. In his study on diploma-inflation, he proves that the value of each qualification has decreased in terms of labor market success, but that the drop in value has been the least steep for the highest qualifications. Compared to high-educated people, the disadvantage experienced by the low-educated in the labor market has grown.

Usually, this tendency can be explained using the job-queue-theory (Thurow, 1975). According to this theory, educational expansion has pushed the low-educated further to the back of the queue of people looking for jobs. This is a straightforward consequence of the increase in the number of people with better qualifications. Employers are more likely to prefer high-educated people, because they are thought to be more productive, more creative, and better trainable than the low-educated. But, in addition to this purely structural explanation of decreasing labor market success of the low-educated, we also propose a qualitative explanation (Solga, 2002): it is likely that the composition of

the group of low-educated people has been changing. There are several arguments for this claim.

It is, in the first place, likely that 'hidden talent' (Van Heek, 1968) has become increasingly scarce within the group of low-educated people, because the educational system has become more focused on selecting talent. In the past, for many children a disadvantaged social background meant not receiving the opportunity to enroll in (higher) secondary education, even though they might have had the potential to successfully complete such an educational track. Educational opportunities have grown for the disadvantaged groups mostly as a result of financial support offered by the government, and increasing welfare. Therefore, the most talented people nowadays might have left the group of low-educated people, while children with insufficient cognitive abilities leave formal education without a qualification (De Vries, 1993). Because, according to the economic screening theory (Arrow, 1973), employers mostly select on cognitive ability and use educational attainment as an indicator for this, the situation of the unqualified and lower secondary qualified should have become increasingly disadvantageous. These arguments suggest that low education has more and more become a symbol of a lack of talent.

Second, the composition of the group of low-educated people might have changed with regard to social background. Even though, in the Netherlands, the educational system has generally become more open for the lower social strata, children from the most disadvantaged strata might still leave full-time education without a qualification (De Graaf, 1986; Dronkers and De Graaf, 1995; Solga, 2002). Sociological theories on the intergenerational transmission of inequality stress that the educational system does not only sort according to student's abilities, but also on their social background. Several mechanisms are proposed in the literature. Children from higher social strata are socialized in the cultural codes that are rewarded at higher education level (Bourdieu, 1973; De Graaf, De Graaf, and Kraaykamp, 2000), and parents from the less advantaged social strata are financially less able or less willing to provide their children with a long educational career (Blau and Duncan, 1967). Furthermore, a lack of stimulation from one's social network and fear of investing in children's educational careers are often also proposed as explanations. If low-educated people today are more likely to originate from disadvantaged social backgrounds, they probably increasingly lack social resources. In addition, employers might become more reluctant to hire low-educated employees, since they increasingly equate low education with a disadvantaged social background. Indeed, research has shown that social background independently affects labor market outcomes (De Graaf and Luijkx, 1992; 1995b). The expectation therefore is that the labor market success of the low-educated has decreased, because they belong to a group that has become an increasingly negative selection on social background. For Germany, Solga and Wagner (2001) have already shown that this process has taken place. A structural hypothesis is: *Low-educated people increasingly experience a lack of labor market success; this tendency is associated with the decreasing number of the low-educated.*

This structural hypothesis may be more relevant for employment opportunities than for occupational status. The qualitative supply of jobs probably has not remained constant over time (Conen, Huijgen and Riesewijk, 1983; Huijgen, 1989; Batenburg and De Witte,

1995). Particularly the jobs at the lowest level have been lost as a result of increasing modernization. It is to be expected that if, over time, the lowest educated who did find jobs have increasingly been assigned jobs with relatively higher occupational levels, the difference in job level between the low-educated and high-educated will have decreased.

The value of a lower education will probably not only depend on structural changes in the labor market, but also on other changes in the economic situation. The position of the low-educated might be particularly precarious in times of recession. When the economic situation is disadvantageous and the supply of jobs decreases, the competition for (preferred) positions on the labor market becomes stronger. The relatively unfavorable competitive position of the unqualified and lower secondary qualified will then have more serious consequences (De Graaf, 1996). This economic situation hypothesis cannot be seen independently from the structural hypothesis. Both the economic situation and the change in the number of low-educated individuals might influence the expected tendency towards decreasing labor market success of the low-educated. If we do not take into account the economic situation, then in times of economic progress the trend towards structural economic marginalization will be suppressed, while in times of economic recession, this trend will be overestimated. This implies that both hypotheses should be examined simultaneously. The 'economic situation hypothesis' reads: *For the low-educated, a lack of labor market success will be especially likely in periods when the economic situation is unfavorable.*

To study whether the value of lower qualifications has indeed declined over time as compared to the value of higher qualifications, we need to take into account changes that occur during the life-course. Since older cohorts have more labor market experience than younger cohorts, the differences between the cohorts might not only be attributed to changes over time, but also to changes over the life-course. There are two arguments that contradict each other here. First, education is a resource that is most important in the early stages of the occupational career (Blau and Duncan, 1967; De Graaf and Luijkx, 1995a). Later in the occupational career, someone's curriculum vitae is a better way of assessing his or her potential productivity, which means that people who enter the labor market with a lower level of education face the most difficulties at labor market entrance, but find their way as their career proceeds. This results in the hypothesis that the differences in labor market success between the low-educated and high-educated will become smaller during the life-course. Second, additional training during the occupational career might be important (De Grip, Heijke and Willems, 1998). Many children who leave school without a qualification go on to gain a qualification later on, and therefore the percentage of unqualified people decreases over the life-course. Particularly the people who are considered by their employers to have potential, might be granted access to additional training. If this group consists of a positive selection on the basis of cognitive ability and social background, then once again the composition of the group of low-educated people that remains becomes increasingly disadvantageous, but this time over the life-course. In this case, the already deprived position of the low-educated will only become worse. Both described lines of reasoning lead to two life-course hypotheses. According to the 'positive life-course hypothesis', we expect *low-educated people to become more successful in the labor market during their life-course,* while the 'negative life-course hypothesis' argues

that *low-educated people become less successful in the labor market during their life-course.*

The structural hypothesis will be tested by examining whether there has been a downward tendency in the labor market success of the unqualified and the lower secondary qualified. After that, this chapter will study to what extent this downward tendency is associated with the decreasing number of low-educated people, by estimating the interaction between education and the percentage of unqualified people in the year of measurement. To test the economic situation hypothesis, we will examine the degree to which the percentage of non-employed people in the year of measurement influences the differences in labor market success between the low-educated and the high-educated. An interaction between education and non-employment in the year of measurement will therefore be included in the analyses. To examine the life-course hypotheses, this chapter distinguishes five age categories, that is, age 18 to 24, 25 to 34, 35 to 44, 45 to 54, and 55 to 65. The examination of the structural tendencies across age categories provides the answers with regard to the decreasing or increasing labor market success of the low-educated during the life-course.

With regard to the youngest and oldest age categories, certain points need to be kept in mind. Since the transition from school to work occurs at different ages for the educational categories distinguished, they be extra sensitive to structural and economic tendencies. The termination of the occupational career has also proven to be quite sensitive to the economic situation and changes in regulations with regard to retirement or early retirement. In the past, people typically left the labor market at the statutory retirement age. Today, more important reasons for leaving working life are disability, unemployment, and early retirement. We look at the five age categories mentioned, but the most reliable findings with regard to the changing impact of education can be found in the categories 25-34, 35-44, and 45-54.

2.3 Data and measurements

2.3.1 Data sources

For the analyses, we use labor force surveys collected by Statistics Netherlands (CBS) from the years 1977, 1985, 1991, and 1994 to 1998. Two datasets that seemed appropriate and available to use—the census of 1960 and the labor force survey of 1973—proved not to be useful, since some variables were missing and, more importantly, education turned out to be measured in a way that did not enhance the comparability over time. Still, the datasets cover a period of 21 years: 1977 to 1998. A disadvantage that these labor force surveys are claimed to have is that the low-educated are increasingly underrepresented. The reason for this would be that compared to high-educated people, the low-educated would be increasingly less willing to participate in surveys (Visscher, 1997). If this were indeed to be the case, and if the non-employed lower educated are most likely not to participate, this would mean that, for the most recent data, a weaker relationship between being unqualified and labor market success will be found than is actually the case. This

would result in an underestimation of the possible tendency towards a stronger association (structural hypothesis).

Only limited information is required: contemporary labor market participation, occupation, the highest attained educational level, and the year of birth. These variables have been made comparable for the surveys, after which the separate datasets were combined into one file. Respondents who attended full-time education at the moment of the interview are excluded, because they are considered not to have finished their educational career yet. Moreover, we also exclude respondents who were conscripted into the military service at the time of the interview. This might be considered an interruption of their educational career, and if this is not the case, they have not yet made the transition from school to work. Table 2.1 shows that, in total, there are 605.042 respondents between the age of 18 and 65. The least respondents were interviewed in 1994 (39.724), and the most in 1977 (192.597). In addition, after division into age categories, the number of cases in the cells in Table 2.1 remain high. The cell with the least number of cases still contains 3.292 respondents (age 18-24, interviewed in 1994).

Table 2.1: Number of respondents in the years of measurement and age categories

	Year of measurement								
Age in year of measurement	1977	1985	1991	1994	1995	1996	1997	1998	Total
18-24	29320	6167	6373	3292	5588	4733	4290	3817	63580
	15.2 %	13.4 %	10.3 %	8.3 %	7.7 %	7.1 %	6.5 %	6.4 %	10.5 %
25-34	51976	11949	16667	10623	19552	17537	17039	15530	160873
	27.0 %	25.9 %	26.8 %	26.7 %	27.0 %	26.4 %	25.9 %	25.9 %	26.6 %
35-44	39749	11074	16342	10624	19374	17981	18260	16379	149801
	20.6 %	24.0 %	26.3 %	26.7 %	26.7 %	27.1 %	27.8 %	27.4 %	24.8 %
45-54	37484	8453	11911	8561	15792	14850	15008	14041	126100
	19.5 %	18.3 %	19.2 %	21.6 %	21.8 %	22.4 %	22.9 %	23.4 %	20.8 %
55-65	34068	8548	10811	6624	12227	11204	11073	10133	104688
	17.7 %	18.5 %	17.4 %	16.7 %	16.9 %	16.9 %	16.9 %	16.9 %	17.3 %
Total	192597	46191	62104	39724	72533	66305	65670	59918	605042
	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %

Source: Labor Force Surveys 1977, 1985, 1991, and 1994 to 1998 (Statistics Netherlands).

2.3.2 Measurement of individual and contextual variables

Four categories indicate *highest attained educational level*: 'primary education' (Dutch: basisschool), 'lower secondary education' (vbo and mavo), 'higher secondary education' (mbo, havo, and vwo), and 'tertiary education' (hbo and wo). Similar levels of education whose names have changed over the years are also assigned to these four categories. The two levels of lower education are distinguished to examine whether the labor market success (or lack of it) of the lower secondary qualified has become more similar to the labor market success (or lack of it) of the unqualified.

First, *employment* is used to indicate labor market success. The respondent should be employed for at least 12 hours a week. Respondents who work fewer hours, who are unemployed, are disabled, are in early retirement, perform voluntary work, and respondents who work in the household, are considered not to be employed. We treat these diverse indications of non-employment as belonging to one category, because in the Netherlands, unemployment, disability, and early retirement have become alternative exit

routes from the labor market. The question regarding the group in which people end up depends more on social rights, financial security, and early retirement schemes than on education. That is why we decided to look at employment as a dependent variable, rather than the more usual measure of unemployment. It is assumed that being employed is more favorable than being non-employed.

The second indicator of labor market success is *occupational status*, for which the 'Standard International Socio-Economic Index of Occupational Status (ISEI) (Ganzeboom, De Graaf and Treiman, 1992) is used. For research on occupational stratification, several occupational level scales are available (Featherman and Hauser, 1994): socio-economic status, occupational prestige, and job level. The appropriateness of a certain measurement is quite arbitrary. Of course, all measurements have advantages and disadvantages, but they show high correlations with each other, which means that they are interchangeable to a great extent and therefore will produce similar empirical outcomes.

The *marginalization of the low-educated* is operationalized using the percentage of people without a secondary qualification in the respondent's age category and in the year of measurement. Since the economic situation is expected to influence this linear trend, the *economic conditions* are measured, using the percentage of non-employed people in the respondent's age category and year of measurement. This measurement is not the same as the unemployment percentage, but does display the same tendency. When the unemployment percentage declines, the non-employment percentage declines too, and vice versa. An advantage of this way of measuring the economic situation is that it takes into account the alternative ways of non-employment, which often indicate hidden unemployment, such as being disabled.

The *year of measurement* is constructed as a set of dummy variables, to control as well as possible for the idiosyncratic characteristics of the datasets in the years of interview used. When interaction effects are calculated, we will use a continuous variable for year of measurement. This varies between 0 (1977) and 2.1 (1998), and thus one unit reflects the changes in a period of ten years.

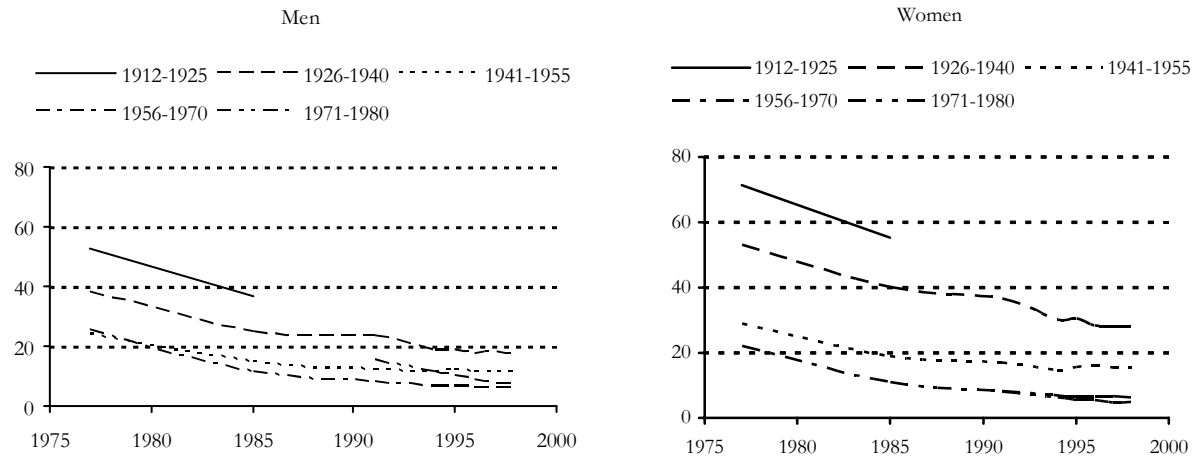
2.4 Results

2.4.1 Low education over the life-course

The analysis section starts with Figure 2.1, in which an overview of the educational level of the Dutch population is presented. Several findings stand out. First, as a result of educational expansion, the percentage of unqualified people is lowest in the youngest birth cohorts. In the older birth cohorts, relatively many men and women do not have any qualification at a secondary level or higher. Second, in the older birth cohorts, the percentage of unqualified women is always higher than the percentage of men without a qualification. However, the younger birth cohorts show a lower percentage of unqualified women in the 1990s. Third, for most cohorts, the percentage of people without a qualification declines strongly over the life-course, with the steepest drop occurring in the period between 1977 and 1985. This is not surprising, since at that time there were still

many talented men and women who were able to benefit from additional training during their later life-courses. In the later years of measurement, the number of people without a qualification becomes very small, so that in absolute and relative terms, only few were able to gain a qualification after leaving school without one.

Figure 2.1: Percentage of unqualified respondents for years and birth cohorts



Source: Labor Force Surveys 1977, 1985, 1991, and 1994 to 1998 (Statistics Netherlands).

2.4.2 Low education and employment

Table 2.2 shows the differences in employment between the four educational categories, divided across year of measurement, gender, and age groups. It immediately shows that in all years, for each age group, and for men and women, education and employment are strongly associated. People without any qualification, or people with a lower secondary qualification, are less often employed than people with better qualifications. Moreover, a comparison between the years of measurement shows that in 1985, the percentage of employed people is lowest in almost all educational and age groups. Here, the influence of the unfavorable economic situation starting at the beginning of the 1980s and lasting until the mid-1980s is visible. After that, in general the percentage of employed people increased again, but never returned to the high level of 1977. Another important difference is that the percentage of employed women is always lower than the percentage of employed men. In the 1990s, some eighty per cent of the unqualified men were in employment, while some ninety per cent of the lower qualified men had a job (roughly based on the age groups of 25-34, 35-44, and 45-54). For women, these percentages are respectively approximately 30 and 40 per cent. Finally, the difference in employment percentages for men is greatest between the unqualified and lower secondary qualified, while the differences between the lower secondary educated and higher educated are generally small. For women, the differences between the educational groups seem to follow a more linear pattern for much of the time.

Table 2.2: Employment in percentages for educational categories, age categories, year of measurement, and gender

	Year of measurement							
	1977	1985	1991	1994	1995	1996	1997	1998
MEN					age 18 to 24			
Primary education	88	63	75	72	72	77	83	82
Lower secondary education	94	82	90	87	89	91	93	92
Higher secondary education	93	87	91	90	91	94	95	96
Tertiary education	91	88	81	89	90	86	88	92
					age 25 to 34			
Primary education	90	71	81	78	80	81	84	85
Lower secondary education	96	85	93	92	92	93	93	94
Higher secondary education	98	93	96	95	95	96	97	98
Tertiary education	97	92	95	93	94	95	97	97
					age 35 to 44			
Primary education	87	75	81	81	83	81	81	86
Lower secondary education	95	86	91	90	92	93	93	94
Higher secondary education	98	94	95	94	95	96	96	97
Tertiary education	98	96	95	95	97	97	98	98
					age 45 to 54			
Primary education	79	62	70	74	75	76	76	79
Lower secondary education	91	75	84	86	85	85	86	88
Higher secondary education	94	87	90	90	91	90	91	91
Tertiary education	96	93	93	94	94	94	94	96
					age 55 to 65			
Primary education	56	25	26	25	25	26	25	27
Lower secondary education	69	37	40	40	37	36	42	43
Higher secondary education	75	48	40	40	39	41	41	43
Tertiary education	80	56	45	51	48	47	50	54
WOMEN					age 18 to 24			
Primary education	48	38	51	51	48	52	52	63
Lower secondary education	68	67	77	75	73	74	77	78
Higher secondary education	82	80	88	87	86	89	91	91
Tertiary education	87	84	84	83	84	87	89	93
					age 25 to 34			
Primary education	17	14	24	31	28	28	29	39
Lower secondary education	22	23	38	39	43	44	47	51
Higher secondary education	37	41	59	62	65	66	70	71
Tertiary education	54	61	75	83	82	86	86	89
					age 35 to 44			
Primary education	17	18	27	27	28	31	31	36
Lower secondary education	24	18	35	36	39	39	40	44
Higher secondary education	32	30	49	51	51	52	55	57
Tertiary education	43	46	65	71	71	75	74	78
					age 45 to 54			
Primary education	14	12	23	25	24	24	28	26
Lower secondary education	23	15	28	29	33	31	35	37
Higher secondary education	33	31	44	48	49	51	55	56
Tertiary education	52	47	58	69	70	70	69	72
					age 55 to 65			
Primary education	7	4	5	5	5	6	5	6
Lower secondary education	15	7	10	10	9	10	11	11
Higher secondary education	24	11	14	17	18	18	19	20
Tertiary education	34	24	19	29	26	26	31	36

Source: Labor Force Surveys 1977, 1985, 1991, and 1994 to 1998 (Statistics Netherlands).

Tables 2.3 and 2.4 present the results of a set of logistic analyses, where the outcome variable is 'being employed'. For the five age categories, two models are estimated for men and women separately. In addition to dummies for education, Model 1 (M1) incorporates three other kinds of effects: the economic situation (percentage of non-employed respondents within the year of measurement, for the respective age category and calculated separately for men and women), the marginalization of the low-educated (the percentage of unqualified in the year of measurement), and a set of three interaction

variables between education and year, which together represent the linear trends in the effects of education. These interaction effects provide a first indication of the tenability of the structural hypothesis. Model 2 (M2) adds interaction effects between education on the one hand, and the economic situation and marginalization of the low-educated on the other. These provide the formal test for the structural and economic situation hypotheses. To prevent multi-collinearity in Model 2, the interaction effects between education and year of measurement are excluded.

The effects from Model 1 show that for men and women in each age category, education is a strong predictor of the odds of being employed. Since the model includes interaction variables between year and dummies of education, the main effects show the difference between the educational categories in the reference year, that is, 1977. In this year, the difference between primary educated people and tertiary educated people was large. The effect for primary educated men between age 25 and 34 is -1.18, which indicates that the odds of employment are 69 per cent lower for the primary educated, compared to the odds for the tertiary educated $((1 - e^{-1.18})*100)$. For the older age categories (35-44 and 45-54) the relative odds of being employed is even lower: respectively 84 and 86 percent. Furthermore, for unqualified women in the age categories mentioned, the odds of being employed are respectively 83, 73, and 84 per cent lower. The negative impact of a lower education seems to become stronger over the life-course for men, but not for women (note, again, that we consider the youngest and oldest age categories to be too sensitive to various other changes, which are described at the end of the theory section). This holds true for both unqualified and lower secondary qualified respondents. This finding for 1977 corroborates the negative life-course hypothesis: low-educated men experience direct negative consequences from their lack of qualifications, or constitute a negative selection from the group of men that left formal full-time education without adequate qualifications. Summing up then, even though most differences between, for instance, lower secondary educated respondents and people with tertiary education are also typically substantial, they are always smaller when compared to the difference between the lowest and highest educated men and women. Low-educated people experience a lack of labor market success in terms of their chance of employment.

In general, the interaction effects of Model 1 primarily show that young, low-educated men and women have experienced increasing disadvantages with regard to employment. For men, this is especially the case for the age group 25-34, and for women for the age groups 25-34 and 35-44. For these age groups, the difference in labor market success between the low-educated and high-educated has clearly grown. In addition, educational differences have declined for women between age 18 and 24. This is not surprising, since participating in the labor market before family formation became more normal for low-educated women, while the highest educated women were always the trendsetters in labor market participation. It is more striking to note that after age 24, which is the period in which most life-course events with regard to family formation tend to happen, educational differences increase once more. Finally, educational differences are quite stable in the later stages of the life-course. The disadvantages experienced by low-educated men and women compared to high-educated men and women mostly increase at the beginning of the occupational career, after which this tendency stabilizes.

Since the differences found for 1977 were the largest for the older men and women, these trends suggest that the lack of labor market success of younger and older respondents became more uniform.

Table 2.3: Changes in the impact of education on employment for men, logistic regression

	age 18-24		age 25-34		age 35-44		age 45-54		age 55-65	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Year of measurement										
1977 (ref)										
1985	0.07	-0.09	0.06	-0.04	0.10	0.00	0.15	0.15	-0.90**	-1.03**
1991	-0.04	-0.17	-0.08	-0.24	-0.09	-0.22	-0.02	0.01	-1.16**	-1.32**
1994	-0.06	-0.19	-0.08	-0.28	-0.09	-0.24	-0.04	-0.00	-1.31**	-1.50**
1995	-0.05	-0.17	-0.07	-0.28	-0.09	-0.25	-0.06	-0.03	-1.36**	-1.56**
1996	-0.01	-0.12	-0.05	-0.27	-0.06	-0.23	-0.07	-0.03	-1.41**	-1.62**
1997	0.08	-0.01	-0.04	-0.24	-0.06	-0.24	-0.05	-0.01	-1.39**	-1.60**
1998	0.10	0.02	0.07	-0.17	0.03	-0.16	-0.04	0.00	-1.43**	-1.65**
Highest attained education										
Primary education	-0.41**	-0.32	-1.18**	-1.86**	-1.85**	-2.22**	-1.95**	-1.73**	-1.13**	-1.75**
Lower secondary education	0.35*	0.79*	-0.24**	-0.72**	-0.81**	-1.06**	-1.05**	-0.94**	-0.63**	-1.05**
Higher secondary education	0.26~	1.59**	0.33**	-0.05	-0.10	-0.57**	-0.44**	-0.58**	-0.28**	-0.81**
Tertiary education (ref)										
Economic situation										
Non-employment percentage	-0.09**	-0.02	-0.15**	-0.17**	-0.16**	-0.19**	-0.09**	-0.09**	-0.04**	-0.05**
Marginalization										
Percentage unqualified	0.01~	0.01	0.01	-0.00	0.02*	0.01	0.02*	0.02*	-0.02**	-0.03**
Interactions[a]										
Year * primary	-0.21~		-0.21**		-0.02		0.13~		0.02	
Year * lower secondary	-0.03		-0.15*		-0.08		0.01		0.09~	
Year * higher secondary	0.20~		-0.07		-0.15~		-0.07		-0.08	
Perc. unqualified * primary		0.02		0.02**		-0.00		-0.01		0.00
Perc. unqualified * lower sec.		0.00		0.02*		0.00		0.00		0.00
Perc. unqualified * higher sec.		-0.03**		0.01		0.01		0.01		0.01*
Perc. non-employed * primary		-0.06*		0.03		0.06*		0.00		0.01**
Perc. non-employed * lower sec.		-0.06~		0.02		0.01		-0.01		0.01**
Perc. non-employed * higher sec.		-0.07*		0.03~		0.03		-0.00		0.01**
Constant	2.72**	2.18**	3.89**	4.31**	4.35**	4.69**	3.70**	3.65**	4.29**	4.98**
Number of cases	29429	29439	78464	78464	74365	74365	62125	62125	48143	48143
Nagelkerke R squared	5.8 %	5.9 %	7.0 %	7.0 %	8.3 %	8.3 %	9.9 %	9.9 %	31.9 %	32.0 %

Source: Labor Force Surveys 1977, 1985, 1991, and 1994 to 1998 (Statistics Netherlands), ** = p<0.01, * = p<0.05, ~ = p<0.10.
a: For the interactions in which year of measurement occurs, I use a linear measurement as described in paragraph 2.4.

The main effect of the economic situation in Model 1 shows the expected result: the higher the percentage of non-employed people within the year of measurement, age group, and gender group is, the lower is their chance of being employed. The main effect of marginalization does not need to be discussed extensively, because we estimate it in a model in which indicators of the year of measurement are already included. This implies that the linear effect of the percentage of unqualified people merely depicts a linear tendency in the odds of employment, insofar as the separate dummies for year of measurement do not capture these trends.

In Model 2 (M2), the structural and economic situation hypotheses are put to a stronger test. Corresponding with Model 1, the structural hypothesis for men is only confirmed for younger, lower-educated males (age 25-34). In 1977, when 24 per cent of the males in the age group 25-34 did not have a qualification, the odds ratio of non-employment was 0.16 (main effect of primary education; $e^{-1.86}$). In 1998, when only 4 per

cent of this age group was unqualified, the odds ratio was 0.10 ($e^{-1.86-20*0.02}$), which indicates that as a result of educational expansion, the situation has become more disadvantageous for young unqualified men. The same holds true for women with a lower secondary education. The significant interaction effects between marginalization and education for the age groups 25-34, 35-44, and 45-54 indicate that low-educated women increasingly lose the battle for jobs with the increased number of high-educated women. The only finding that does not support the structural hypothesis, is the significant negative interaction for the oldest women. This indicates that in periods in which the number of higher educated older women is high, the lowest educated women stand a better chance of being employed. Since there are no further significant tendencies, and since the tendencies toward marginalization are mostly found for the younger age groups, these results are more in line with the positive life-course hypothesis than with the negative life-course hypothesis.

Table 2.4: Changes in the impact of education on employment for women, logistic regression

	age 18-24		age 25-34		age 35-44		age 45-54		age 55-65	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Year of measurement										
1977 (ref)										
1985	-0.11	0.20	0.00	-0.27*	0.21**	0.04	-0.27*	-0.30**	-1.88**	-1.81**
1991	-0.29	0.26~	-0.02	-0.43**	0.27*	-0.03	-0.20	-0.25~	-2.36**	-2.43**
1994	-0.43*	0.24	-0.04	-0.53**	0.24	-0.13	-0.26	-0.33*	-3.03**	-3.01**
1995	-0.48*	0.22	0.01	-0.49**	0.28~	-0.10	-0.23	-0.30~	-3.08**	-3.05**
1996	-0.50*	0.25	0.01	-0.52**	0.28	-0.13	-0.24	-0.31*	-3.21**	-3.18**
1997	-0.49*	0.30~	0.02	-0.53**	0.28	-0.15	-0.23	-0.30~	-3.37**	-3.33**
1998	-0.50*	0.33*	0.02	-0.56**	0.29	-0.16	-0.25	-0.32*	-3.37**	-3.34**
Highest attained education										
Primary education	-2.47**	-1.53**	-1.76**	-3.27**	-1.32**	-2.60**	-1.83**	-1.77**	-1.99**	-3.25**
Lower secondary education	-1.60**	-0.17	-1.42**	-2.13**	-0.93**	-1.51**	-1.31**	-1.22**	-1.21**	-3.44**
Higher secondary education	-0.78**	0.55**	-0.71**	-0.84**	-0.44**	-1.20**	-0.75**	-0.67**	-0.61**	-2.08**
Tertiary education (ref)										
Economic situation										
Non-employment percentage	-0.06**	-0.03**	-0.05**	-0.05**	-0.05**	-0.05**	-0.04**	-0.04**	-0.06**	-0.08**
Marginalization										
Percentage unqualified	0.05**	0.04**	0.01	-0.02*	0.01**	0.00	-0.00	-0.00	-0.06**	-0.05**
Interactions[a]										
Year * primary	0.27**		-0.43**		-0.28**		-0.01		0.12~	
Year * lower secondary	0.40**		-0.29**		-0.28**		-0.10*		-0.05	
Year * higher secondary	0.45**		-0.18**		-0.24**		0.01		-0.02	
Perc. unqualified * primary		0.01		0.01		0.00		0.00		-0.01**
Perc. unqualified * lower sec.		0.01		0.02**		0.02**		0.01*		-0.00
Perc. unqualified * higher sec.		-0.01		0.03**		0.01**		0.00		-0.00
Perc. non-employed * primary		-0.03**		0.02**		0.02**		-0.00		0.02**
Perc. non-employed * lower sec.		-0.04**		0.00		-0.00		-0.01		0.03**
Perc. non-employed * higher sec.		-0.02*		-0.01**		0.00		-0.00		0.02**
Constant	3.16**	1.86**	3.43**	3.97**	2.92**	3.55**	3.23**	3.17**	8.69**	10.09**
Number of cases	33028	33028	79913	79913	73047	73047	61936	61936	51339	51339
Nagelkerke R squared	19.4 %	19.5 %	29.7 %	29.8 %	17.6 %	17.6 %	18.6 %	18.6 %	17.2 %	17.3 %

Source: Labor Force Surveys 1977, 1985, 1991, and 1994 to 1998 (Statistics Netherlands), ** = p<0.01, * = p<0.05, ~ = p<0.10.
a: For the interactions in which year of measurement occurs, a linear measurement is used as described in paragraph 2.4.

The results from Model 2 have one very clear implication with regard to the economic situation hypothesis. The disadvantageous situation of low-educated men and women in

the youngest age group (18-24) is intensified by an unfavorable business cycle. In the other phases of the life-course, unfavorable economic conditions seem to stimulate the job opportunities of the low-educated. For women, this might be seen as a confirmation of the additional worker hypothesis. In times of high unemployment, labor market participation of low-educated women may not be a choice, but rather a necessity in view of the financial situation of the household. Since for men, these positive effects are mainly found for the group older than 55, this might imply that in times of economic adversity, high-educated men have better opportunities to leave the labor market under relatively advantageous conditions. The companies for which they work might be able to provide attractive early retirement schemes, and high-educated men themselves might financially be more able than low-educated people to participate in insurance schemes for these kinds of situations. In this case, leaving the labor market is not so much an indication of a lack of success, but rather the best possible outcome in an otherwise difficult situation.

2.4.3 Low education and occupational status

The average socio-economic status of the educational categories quantifies the relationship between lower education and job level. Of course, it is necessary to make a selection of the men and women who had a job at the time of the interview (N=364.429). Furthermore, the presented analyses are completely analogous to the analyses presented for employment. Table 2.5 shows the average occupational level for educational groups, year of measurement, age groups, and gender.

The attained occupational status depends to a large extent on one's educational level. There are three other significant results. First, the average occupational status is quite stable over the years. Second, men experience some upward occupational mobility over their life-course, while women mostly fall back in occupational status as they get older. In general, men and women with tertiary education mostly score well above an average of 60 points on the ISEI-scale, especially after age 24. Men and women without qualifications mostly score between 35 and 40, respondents with a lower secondary education between 40 and 45, and the average score of a respondent with higher secondary education mostly lies between 45 and 50. Generally, the differences found between the two lowest educational groups are relatively small, while the differences between the two highest educational groups are rather big. For men and women, the difference in occupational status between the unqualified and tertiary educated respondents becomes smaller over time. To highlight a male and female example: the difference for men in the 35 to 44 age category declined from 29 points to 26 points between 1977 and 1998. For women in the same age category, the difference declined more noticeably, from 31 points to 25 points. This contradicts the hypothesis that the decreasing group of low-educated people experiences an increasing lack of labor market success.

Table 2.5: Average occupational status (ISEI) for educational categories, age categories, year of measurement, and gender

	Year of measurement							
	1977	1985	1991	1994	1995	1996	1997	1998
MEN					age 18 to 24			
Primary education	34	32	33	34	35	36	36	33
Lower secondary education	38	35	36	37	38	38	37	37
Higher secondary education	43	40	41	41	42	41	41	42
Tertiary education	61	58	60	57	57	59	58	62
					age 25 to 34			
Primary education	36	35	35	37	36	36	36	37
Lower secondary education	40	38	38	39	40	39	40	40
Higher secondary education	47	45	45	45	45	45	45	45
Tertiary education	65	63	63	64	62	63	63	63
					age 35 to 44			
Primary education	36	36	36	39	38	37	37	38
Lower secondary education	41	40	40	42	41	41	41	41
Higher secondary education	48	47	49	48	48	48	48	48
Tertiary education	65	66	65	66	65	65	65	64
					age 45 to 54			
Primary education	36	36	36	39	38	39	37	39
Lower secondary education	42	39	41	42	42	43	42	42
Higher secondary education	49	48	50	48	48	47	48	48
Tertiary education	66	65	66	66	66	66	66	66
					age 55 to 65			
Primary education	36	35	36	38	40	41	39	40
Lower secondary education	42	39	38	43	43	42	43	43
Higher secondary education	50	49	49	48	47	47	47	47
Tertiary education	66	65	66	66	65	66	66	66
WOMEN					age 18 to 24			
Primary education	39	37	36	39	37	35	39	40
Lower secondary education	45	43	42	39	40	39	40	39
Higher secondary education	47	44	45	44	44	44	44	45
Tertiary education	62	56	53	55	56	58	59	60
					age 25 to 34			
Primary education	36	33	33	36	39	37	40	39
Lower secondary education	42	41	41	42	42	42	42	41
Higher secondary education	48	45	45	46	47	46	47	47
Tertiary education	64	61	59	63	62	61	62	62
					age 35 to 44			
Primary education	33	31	34	39	37	37	38	39
Lower secondary education	40	37	39	41	42	40	41	41
Higher secondary education	47	44	45	47	48	47	48	48
Tertiary education	64	62	61	65	65	64	64	64
					age 45 to 54			
Primary education	33	31	33	39	37	37	37	39
Lower secondary education	42	34	36	40	40	40	40	40
Higher secondary education	48	47	45	48	48	47	48	49
Tertiary education	64	62	62	64	65	66	65	64
					age 55 to 65			
Primary education	34	29	33	35	39	38	36	39
Lower secondary education	42	36	36	37	41	38	39	39
Higher secondary education	50	46	47	48	49	48	47	50
Tertiary education	63	59	59	67	66	64	65	64

Source: Labor Force Surveys 1977, 1985, 1991, and 1994 to 1998 (Statistics Netherlands).

Tables 2.6 and 2.7 present the results of linear regression models. Again, two models are estimated for each of the five age groups, and for men and women separately. But since the dependent variable here is a continues measurement of job level, ordinary least squares estimation techniques are more appropriate. The outcomes of these regressions underscore the conclusions drawn from the descriptive results above. Educational level strongly predicts attained occupational status, and the interaction between education and year of measurement shows that the occupational status of primary educated men and

women became more and more uniform, compared to the average occupational status of tertiary educated respondents. According to Model 1 for the male and female age group of 25-34 for instance, the difference declines every ten years by respectively 1.50 and 1.43 points on the occupational status scale. In the period of 1977 to 1998, the difference therefore decreased by 11 per cent for both men and women. The difference between the unqualified and lower secondary qualified men and women in this age group also became smaller. Over the complete period of 1977 to 1998, the difference decreased by respectively 37 (men) and 42 (women) per cent. For the other age groups, the tendencies are basically the same, be it that the changes in difference might differ.

Table 2.6: Changes in the impact of education on occupational status (ISEI) for men, OLS regression

	age 18-24		age 25-34		age 35-44		age 45-54		age 55-65	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Year of measurement										
1977 (ref)										
1985	-5.09**	-4.20**	2.99**	3.53**	-2.04**	-1.26~	-1.26	-0.98	-0.53	-0.01
1991	-6.06**	-4.97**	-0.01	0.85	-1.09~	-0.06	-0.20	0.20	-1.56	-0.90
1994	-5.12**	-3.88**	1.31~	2.34**	-0.93	0.24	-0.22	0.19	-0.42	0.35
1995	-4.90**	-3.67**	0.65	1.71*	-0.87	0.36	-0.12	0.28	-0.63	0.14
1996	-5.36**	-4.13**	0.21	1.32~	-0.78	0.51	-0.15	0.25	-0.94	-0.15
1997	-6.30**	-5.13**	-0.16	1.00	-0.87	0.45	-0.12	0.27	-0.38	0.39
1998	-5.63**	-4.45**	-0.63	0.57	-0.72	0.64	0.10	0.49	-0.51	0.26
Highest attained education										
Primary education	-26.07**	-26.09**	-29.81**	-26.62**	-29.69**	-25.45**	-29.95**	-27.49**	-30.55**	-25.94**
Lower secondary education	-22.31**	-23.64**	-25.13**	-23.76**	-24.95**	-22.43**	-24.32**	-23.52**	-23.97**	-23.26**
Higher secondary education	-17.54**	-18.87**	-18.60**	-17.95**	-17.38**	-16.03**	-16.47**	-18.35**	-15.69**	-18.07**
Tertiary education (ref)										
Economic situation										
Non-employment percentage	-0.08	-0.31*	-0.55**	-0.61**	0.21**	0.32**	0.02	0.01	0.01	0.01
										0.01
Marginalization										
Percentage unqualified	-0.27**	-0.24**	0.12**	0.18**	-0.02	0.02	-0.00	0.01	-0.01	
Interactions[a]										
Year * primary	1.41**		1.50**		1.16**		1.17**		2.07**	
Year * lower secondary	0.71~		0.67**		0.53**		0.27		0.19	
Year * higher secondary	0.12		0.47**		0.33~		-0.65**		-1.21**	
Perc. unqualified * primary		-0.07		-0.14**		-0.07**		-0.06**		-0.09**
Perc. unqualified * lower sec.		-0.02		-0.06**		-0.03~		-0.01		-0.03
Perc. unqualified * higher sec.		-0.01		-0.05**		-0.02		0.03*		0.05**
Perc. non-employed * primary		0.26*		0.05		-0.28**		0.03		0.01
Perc. non-employed * lower sec.		0.24*		0.02		-0.23**		-0.02		-0.01
Perc. non-employed * higher sec.		0.17		0.09		-0.10		0.04		-0.01
Constant	67.28**	68.17**	65.25**	64.16**	64.81**	62.56**	65.81**	65.41**	66.08**	64.80**
Number of cases	24702	24702	70324	70324	66006	66006	51206	51206	21332	21332
R squared	20.6 %	20.6 %	37.1 %	37.1 %	38.5 %	38.5 %	39.7 %	39.7 %	38.9 %	38.9 %

Source: Labor Force Surveys 1977, 1985, 1991, and 1994 to 1998 (Statistics Netherlands), ** = p<0.01, * = p<0.05, ~ = p<0.10.
a: For the interactions in which year of measurement occurs, a linear measurement is used as described in paragraph 2.4.

The general trends in Model 1 are contrary to the expectations that were formulated using the structural hypothesis. The significant and negative interaction effects between education and the percentage of unqualified people in Model M2 confirm this. The lower the percentage of unqualified people, the less the difference in occupational status becomes compared to the highest educated. For women, this seems to be somewhat less the case than for men (if the outcomes across the five age categories are compared), since

Table 2.7 mostly shows insignificant interactions. However, older lower secondary educated women do experience more competition in times when there are many higher educated females, and they therefore attain lower occupational statuses when only few other women are also lower educated. But in general, the results do not confirm the structural hypothesis, and are more in line with the positive life-course hypothesis than with the negative life-course hypothesis. In the conclusion of this chapter, we will offer an explanation for these unexpected findings by pointing out the changes that have taken place in the occupational structure since the 1950s.

Table 2.7: Changes in the impact of education on occupational status (ISEI) for women, OLS regression

	age 18-24		age 25-34		age 35-44		age 45-54		age 55-65	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Year of measurement										
1977 (ref)										
1985	-8.09**	-7.96**	-4.75**	-4.30**	0.09	0.02	-2.93*	-2.84*	-2.75	-3.62~
1991	-8.75**	-8.30**	-5.38**	-4.81**	3.19*	3.14*	-3.00	-3.34~	-1.71	-3.25
1994	-10.34**	-9.78**	-4.08*	-3.42*	5.66**	5.61**	-0.93	-1.50	-0.33	-2.19
1995	-10.42**	-9.84**	-4.11**	-3.45*	6.12**	6.05**	-0.45	-1.09	1.29	-0.69
1996	-10.43**	-9.72**	-4.19**	-3.50*	6.30**	6.22**	-0.16	-0.88	0.35	-1.75
1997	-9.27**	-8.47**	-3.35*	-2.64~	7.19**	7.09**	-0.11	-0.90	0.49	-1.75
1998	-8.46**	-7.56**	-3.10~	-2.36	7.65**	7.54**	0.47	-0.38	1.53	-0.82
Highest attained education										
Primary education	-21.77**	-17.12**	-26.28**	-17.63**	-28.27**	-23.66**	-29.16**	-18.72**	-27.55**	-32.46**
Lower secondary education	-15.50**	-14.58**	-19.15**	-17.34**	-21.83**	-26.25**	-20.92**	-17.87**	-19.69**	-24.32**
Higher secondary education	-13.82**	-11.79**	-14.83**	-13.72**	-15.11**	-19.76**	-14.26**	-14.93**	-12.54**	-20.10**
Tertiary education (ref)										
Economic situation										
Non-employment percentage	0.09**	0.11**	0.09**	0.12**	0.14*	0.09	0.01	0.08*	0.02	-0.00
Marginalization										
Percentage unqualified	-0.40**	-0.35**	-0.26**	-0.26**	0.03	0.08~	-0.04	-0.11*	-0.03	-0.07
Interactions[a]										
Year * primary	1.53**		1.43**		1.26**		1.39**		0.42	
Year * lower secondary	-0.29		0.01		-0.23		-1.56**		-2.71**	
Year * higher secondary	0.77*		0.08		-0.68		-1.19*		-1.71*	
Perc. unqualified * primary		-0.14~		0.16~		-0.06		0.04		-0.02
Perc. unqualified * lower sec.		0.01		0.05		-0.09~		0.17**		0.11**
Perc. unqualified * higher sec.		-0.12~		0.05		-0.04		0.09*		0.06
Perc. non-employed * primary		-0.06		-0.18**		-0.03		-0.15*		0.08
Perc. non-employed * lower sec.		-0.06		-0.05~		0.10*		-0.16**		-0.04
Perc. non-employed * higher sec.		0.01		-0.03		0.08~		-0.06		0.04
Constant	67.25**	65.59**	63.64**	61.94**	51.03**	52.98**	65.17**	62.92**	63.67**	68.01**
Number of cases	23386	23386	37020	37020	28139	28139	19325	19325	5268	5268
R squared	12.4 %	12.4 %	21.2 %	21.3 %	29.0 %	29.0 %	32.0 %	32.0 %	32.3 %	32.2 %

Source: Labor Force Surveys 1977, 1985, 1991, and 1994 to 1998 (Statistics Netherlands), ** = p<0.01, * = p<0.05, ~ = p<0.10.
a: For the interactions in which year of measurement occurs, I use a linear measurement as described in paragraph 2.4.

Some confirmation is found for the economic situation hypothesis. Low-educated men in the 35 to 44 age category, and low-educated women in the 25 to 34 and 45 to 54 age categories attain a lower occupational status in times of unfavorable economic conditions. The other interactions are mostly insignificant, or show an unexpected positive and significant sign.

2.5 Conclusion and discussion

This chapter studied the developments in the lack of labor market success of low-educated native-born Dutch men and women, using the large-scale labor force surveys from Statistics Netherlands. Building on existing knowledge, a structural hypothesis, an economic situation hypothesis, a positive life-course hypothesis, and a negative life-course hypothesis were formulated. What do we learn from the labor force surveys?

Low-educated men and women experience large disadvantages on the labor market. Compared to high-educated people, they are relatively unlikely to be employed, and if they are employed, the job level is on average substantially lower. The structural hypothesis is partly confirmed. For unqualified and lower secondary qualified men of age 25-34, and for unqualified and lower secondary qualified women between age 25 and 54, the gap increased between them and high-educated men and women with respect to the chance of finding a job. Except for the unqualified women, it was found that their changes became more unfavorable when the size of the low-educated group became smaller. For older low-educated men, a lack of labor market success in terms of employment occurs even more than for younger men. However, the distance has remained equally large. For them, working experience probably compensates for the negative influence of being lower educated.

With regard to educational differences in occupational status, the structural hypothesis had to be rejected. The difference in job level between the low-educated and high-educated declined somewhat, both for men and for women, between 1977 and 1998. This tendency arises from the general increase of the low-educated people's average occupational status, while for high-educated people no such increase was noted. Changes in the occupational structure explain this tendency towards a higher level of occupational status for low-educated people: the supply of jobs for which only elementary skills are required has decreased. The labor force surveys show that between 1977 and 1998, the amount of skilled and semi-skilled manual labor decreased. In 1977, 15.1 per cent of the labor population were employed in these occupational classes. In 1998 their number had declined to just 9.5 per cent. Another development that plays a role is that the percentage of high-skilled jobs has grown less strongly than the percentage of higher educated individuals, leading to diploma-inflation (Wolbers, 1998).

With the economic situation hypothesis, we formulated the expectation that for low-educated people, the negative impact of their lack of qualifications is stronger under unfavorable labor market conditions. This hypothesis too can only be partly confirmed. The youngest low-educated men and women (age 18-24) experience more difficulties in finding a job in times of economic adversity than high-educated people. Furthermore, in terms of occupational status, the gap between lower educated middle-aged men and low-educated women of age 25-34 and 45-54 on the one hand, and the high-educated people on the other, increases in times of high non-employment percentages. They are forced to be satisfied with jobs at a more elementary level in times when the competition for jobs is severe. Some results are not in line with the economic situation hypothesis, and do corroborate the additional worker idea. In times of high unemployment, the difference in the chances of being employed between low-educated women (except for age groups 18-

24 and 45-54), and high-educated women becomes smaller. If, for instance, the partners of low-educated women, who probably are also lower educated, find themselves in a difficult labor position in times of high unemployment, it might be necessary for the household to have an additional income.

The question was also asked whether labor market opportunities become more or less favorable for low-educated people as they get older. The percentage of lower educated respondents declines across birth cohorts, the reservoir of talents probably is higher in the older cohorts, so it could be expected that the economic risk of the low-educated would increase over the life-course. This is, however, not the case. Older low-educated men and women indeed have a smaller chance of being employed in 1977 compared to younger low-educated men and women (comparing age group 45-54 with age group 25-43). In 1998, this difference has vanished. There are no life-course tendencies for job level. On average, high-educated people have a higher occupational status than low-educated people, but this difference does not vary substantially over the life-course.

Fewer and fewer people are unqualified in the Netherlands. This is not only a result of the fact that more children leave full-time formal education today with a qualification in their pockets, but also because many unqualified people gained qualifications in later stages of their life-course. We expected that, as a result, low-educated people would experience some economic marginalization. This is only the case for young, low-educated men, and lower secondary educated women of age 25 to 54. They suffer from the increased competition from high-educated people. Relatively young and middle-aged unqualified women have also become more marginalized with regard to employment, but not as a result of increased competition. Here, traditional family values are probably restraining them from labor participation, even though emancipation has resulted in a general increase in female labor participation. Educational differences in employment and status are large, and mostly quite stable. However, relatively young, low-educated men and low-educated women between 25 and 44 do experience greater than ever serious disadvantages from their lack of qualifications in finding a job.

Chapter three

Verbal ability of low-educated people in the Netherlands: the downside of educational expansion•

Summary

This chapter investigates how education affects achievement in verbal ability, and the extent to which the composition of the group of low-educated people has changed with regard to verbal ability. Employing data representative of the Dutch population in 2000 (N=1,301), the results show that, in each birth cohort, people with primary education and lower secondary education score lower on verbal ability than higher-educated people. In addition, family background is found to affect a person's verbal ability achievement. Culturally active parents, parents with cultural occupations, and mothers who were not too young when their children were born, encourage the development of verbal ability in their children. As a consequence, low-educated people from advantaged backgrounds have the opportunity to achieve higher levels of verbal ability despite their relative disadvantage in schooling. Signs of marginalization are found in the changing composition of the group of low-educated people. For the low-educated, the results show an outflow of relatively talented people across birth cohorts. This process has resulted in a group of low-educated people that is more homogeneous with respect to verbal ability nowadays, and in which hidden talent has become increasingly scarce.

3.1 Introduction

In Western societies, educational expansion has been a major development during the last three decades (Shavit and Blossfeld, 1993). For many people, the opportunities to realize their talents improved through a modernized educational system directed at the development of individual qualities. It is generally believed that, as a result of educational expansion, own achievement (a person's educational accomplishments) became more important in the status attainment process, while ascribed characteristics (parental background) became less important (Blau and Duncan, 1967; De Graaf and Luijkx, 1992). Although meritocracy may be perceived as beneficial for society in general, it may also have negative consequences for specific groups. Increased educational opportunities may have led to a marginalization of the group that remains low-educated. While in the past, relatively many talented children from disadvantaged backgrounds remained unschooled (Van Heek, 1968), the talented from the lower classes nowadays often gain diplomas. Therefore, the people who are low-educated nowadays constitute a more distinctive group that scores low on cognitive talents and, consequently, has few opportunities in life. This chapter investigates the extent to which this process of marginalization has occurred. The aim is to gain insight into the possible negative consequences of educational expansion for the group of low-educated people in the Netherlands. Since changes in both association and composition are considered to be signs of this process, this research concentrates on the association between education and cognitive ability, and pays attention to the

• A slightly different version of this chapter has been published as an article in *Mens & Maatschappij, 77* (2002), pp. 361-380, and in *The Netherlands' Journal of Social Sciences, 38* (2002), pp. 191-211. In both cases Gerbert Kraaykamp is co-author.

differences in composition of the group of low-educated people over time with regard to cognitive ability.

Cognitive ability is an appropriate indicator for studying the process of marginalization. Although it is relevant to consider cognitive ability as a central allocation criterion (Sewell and Hauser, 1975; Hauser and Huang, 1997), it is rarely disentangled from education in research into the allocation of occupational positions. If cognitive abilities are separated from education, they are mostly seen as initial abilities, measured at a young age, that help children to be successful at school. Employers, however, select workers on the basis of their current cognitive abilities, which were partly nurtured at school. Employees with abundant human capital are believed to be better trainable, more productive, and, therefore, more attractive (Thurow, 1975; Wolbers, De Graaf and Ultee, 2001). One may also assume that cognitively able people occupy a better position in the marriage market (Kalmijn, 1998), and are better equipped for the consumption of high culture like literature, art objects, and theater plays (Kraaykamp and Dijkstra, 1999). Therefore, abundant cognitive abilities enhance a person's life chances in several domains.

There are at least three reasons to examine cognitive ability separately from education in the process of marginalization. First, if cognitive ability increases during a person's life, it certainly is a result of educational curriculum acquired at school. The higher levels of education pay more attention to the development of cognitive capacities than the lower levels. Accordingly, one cannot regard educational attainment as a simple indicator of cognitive ability, but cognitive ability can be studied as a learning effect of schooling. In this respect, this research also recognizes that in surveys, cognitive test scores are mostly measured after a respondent's educational career is finished. Second, it is likely that cognitive ability is a better measure of a person's talents than education. It has a strong association with general intelligence, and, therefore, it may serve as a more appropriate indicator than education of a person's talents to predict life chances. Moreover, education not only measures ability, but also indicates that some parents are more successful in the intergenerational transmission of family resources than others (Coleman, 1988). Consequently, educational attainment is a far from perfect indicator of ability. A third reason to disentangle education from cognitive ability is that educational attainment is associated with credentialism (Arrows, 1973; Collins, 1979). Since educational qualifications express selection based on capabilities and on ascribed credentials, failing to separate both concepts means that it is impossible to be sure whether a person has an advantage because of the cognitive capacities associated with education, or as a result of the credentials attached to the obtained diploma.

This chapter examines the differences in cognitive ability between, and compositional changes within, educational groups. To measure the verbal component of cognitive ability (Thorndike, 1942), a word recognition test is used. Since the mid-1970s, a comparable word recognition test has been employed on a regular basis in the U.S. General Social Survey (GSS) (Alwin, 1991; Glenn, 1994, 1999; Alwin and McCammon,1999; Wilson and Gove, 1999a, 1999b). With this Dutch measurement, a connection is made with the research of Alwin (1991), who also considers verbal ability to

be part of a larger concept of cognitive ability, measures it using a word-recognition test, and considers it to be dependent on educational attainment.

Measures of vocabulary knowledge are usually highly associated with tests of general cognitive ability and are assumed to be good indicators of the verbal component of standard intelligence tests (Alwin, 1991). Nevertheless, verbal ability may not be regarded as a direct measure of initial talents. Thorndike (1942) describes it as a test score that predominantly indicates past learning, i.e., proven talents. Cattell's (1971) distinction between fluid and crystallized intelligence is, therefore, relevant. Fluid intelligence is defined as the capacity of a person to understand complex relations independently of the social environment in which he or she has been brought up. Crystallized intelligence results from specific investments in fluid intelligence and may, therefore, depend on parental resources and school environment (Cattell, 1971; Alwin 1991). This study considers verbal ability to be a measure that exemplifies past learning. Depending on education and family background, verbal ability improves over the life-course. Research that concentrates on the causal relationship between initial cognitive talent and school success is, therefore, considered to be less relevant for our purpose (e.g., Sewell and Hauser, 1980; Dronkers and De Graaf, 1995; Dronkers, 1999). Although it is acknowledged that the causal order of education and verbal ability is disputable, it can be considered to investigate whether verbal ability is a consequence of educational attainment without incorporating a pre-test of initial intelligence. In this research we have chosen to do so. Thus, if it is correct that a person's verbal ability increases through training at school in reading, writing, and word recognition, a first general research question can be formulated: *To what extent does educational attainment affect verbal ability?*

Parental economic, cultural, and socio-demographic resources also influence a person's opportunities to invest in verbal ability (Alwin and Thornton, 1984; Alwin, 1991). These parental resources may be both directly and indirectly influential (through educational attainment). To answer the first research question, it is important to take into account this selection based on parental resources. It is assumed that a less advantaged educational career and less advantaged parental resources pose obstacles for the development of initial talents. The more initial talents a person has, the more the school and the family influence the final level of verbal ability (the person has more potential for development). If two persons have the same level of initial talent, the one with the less advantaged educational career and family background will attain the lower verbal ability score.

Nowadays, talented children have more opportunities to attain a higher educational level than in the past. In the earlier cohorts, talented children were withheld from the higher levels of schooling because of a lack of parental resources and a less developed school system. It can therefore be expected that the group of low-educated people from the earlier cohorts contains more talented people than the group from the later cohorts (Van Heek, 1968). This process may, on the one hand, be expressed in a changing effect of educational attainment on verbal ability, but, on the other hand, also in a change in the composition of educational groups. The second research question is: *To what extent have the effects of educational attainment on verbal ability changed, and to what extent has the*

group of low-educated people become more homogeneous in verbal ability across birth cohorts? If more talented students attain higher levels of education nowadays, the average level of verbal ability will increasingly differ between educational groups across birth cohorts. As a result, the effect of education on verbal ability should increase across cohorts. However, if the effect does not change, an increasing homogeneity of the group of low-educated people with regard to verbal ability may also indicate growing marginalization. Stability in the association between education and verbal ability could then be caused by an increased homogeneity of the low-educated, accompanied by an increased heterogeneity of other educational groups. To draw meaningful conclusions about the marginalization of the low-educated, compositional changes are therefore studied in addition to changes in the association between educational attainment and verbal ability.

3.2 Theory and hypotheses

3.2.1 Education and verbal ability

People enhance their verbal ability at school. In the Netherlands, at least at secondary school levels, native and foreign languages are taught and attention is paid to reading, writing, and word recognition. At the higher levels of the educational system, interest in the development of literacy through teaching is much higher than at the lower levels. Moreover, the higher the educational level, the longer it takes to complete it and therefore the more intense someone's socialization at school is. Assuming that verbal ability is fostered by past learning and that educational attainment indicates the level of exposure to cultural literacy and competence, the main-effect hypothesis is: *Low-educated people score lower on verbal ability than high-educated people.*

Since the 1960s, the greater opportunities to enroll in higher education have caused an increase in the average level of education in society (Shavit and Blossfeld, 1993). Particularly an increase in welfare as well as governmental educational policies have resulted in better access to the educational system for talented people. At the beginning of the 20th century, enrollment in higher education was relatively expensive and, consequently, most students originated from advantaged parental backgrounds. Also, compared to parents from higher backgrounds, parents from lower backgrounds are presumed to be less willing to invest in the educational careers of their children (Boudon, 1974; Breen and Goldthorpe, 1997). Thus, potentially able students from the lower strata did not receive the opportunity to attend the higher levels of schooling. Therefore, if it is true that a person's verbal ability depends on the possibility of investing in cognitive potential, talented people from the lower strata were less likely to reach high levels of verbal ability.

In the 1960s and 1970s, the Dutch educational system was reformed in such a way that talented children from less advantaged backgrounds gained new opportunities to enroll in higher education. This probably has led to an increase in the association between education and verbal ability over time. More people received the chance to develop their

talents. The expansion of the educational system may, therefore, have led to an increasing importance of schooling in the opportunities to improve in cognitive ability. If this is the case, low-educated people from later birth cohorts should score lower on verbal ability than low-educated people from earlier birth cohorts, as compared to higher-educated people. Lack of schooling is more disadvantageous nowadays. Additionally, it is possible that the composition of the educational groups with respect to verbal ability has changed substantially. Since almost all talented individuals have the possibility to enroll in higher education nowadays, the group of low-educated should consist of more people with low verbal ability than in the earlier birth cohorts. These two processes depict an increased marginalization of the low-educated. Therefore, the educational subgroup hypothesis reads: *Low-educated people from the later birth cohorts score lower on verbal ability, and are more homogeneous in verbal ability than low-educated people from the earlier birth cohorts.*

3.2.2 Selection based on parental resources

As mentioned above, the relationship between educational attainment and verbal ability might be affected by a selection based on parental background characteristics. People's possibilities to invest in educational achievements as well as in the acquisition of cognitive abilities are shaped by features of the parental home (Alwin and Thornton, 1984).

Parental economic resources. Growing up in an affluent family increases the possibility that parents can take care of the costs of higher education (Duncan, Featherman and Duncan, 1972; Coleman, 1988). This positive association between parental economic resources and educational attainment is well-established (De Graaf, De Graaf and Kraaykamp, 2000). The direct association between economic resources and verbal ability is investigated less often. It is presumed that children from affluent families are socially more active and are introduced frequently to the higher social strata. They are more often in situations which encourage the development of literacy. Therefore, it is expected that children who grew up in affluent families score higher on verbal ability than children who grew up in economically disadvantaged families.

Parental cultural resources. Research into the intergenerational transmission of social inequality has established the relevance of cultural capital for the prediction of educational attainment (Bourdieu and Passeron, 1977; DiMaggio, 1982). Children from families with abundant cultural qualities are believed to be better in recognizing the dominant cultural codes taught in schools. This familiarity with cultural codes is reflected in tastes, preferences, and behaviors that are rewarded in the higher levels of education (Lareau, 1987). Parental cultural resources also seem to be relevant in predicting verbal ability. Most cultural activities that parents undertake are directly linked to verbal ability measures. For instance, the reading of literature (Farkas, 1996; Kraaykamp and Dijkstra, 1999) and cultural participation (De Graaf et al., 2000) involve the enhancement of cultural literacy and thereby knowledge of words (i.e., verbal ability). Hence, it is predicted that children from culturally advantaged families score higher on verbal ability than children from culturally disadvantaged families.

Parental socio-demographic resources. To reproduce resources from one generation to the next, intensive social interaction between parents and their offspring is a necessary condition (Coleman, 1988). There are, however, situations in which social interaction is more problematic. Growing up in a single-parent family is the first factor that is considered to be disadvantageous for educational attainment (Schneider and Coleman, 1993). A two-parent family provides a better home environment for the development of children than a single-parent family (Amato, 1993). Alwin (1991) recognized the importance of the family configuration for the explanation of verbal ability achievement. In most single-parent families, children lack an important resource for support, practical help, information, and supervision (Alwin, 1991).

A second social aspect of the home is the size of the family. The resource dilution hypothesis (Blake, 1989; Steelman and Powell, 1989; Downey, 1995) argues that parental resources are not inexhaustible. If parental resources have to be shared with brothers or sisters, fewer resources, like attention and supervision, are available for each child (Downey, 1995; Sui-Chu and Willms, 1996; Kraaykamp, 2000). Therefore, it is expected that children in large families have fewer opportunities to improve verbal ability than children in small families.

A third social factor is the mother's age at the birth of her children. Motherhood at an early age can result in a home environment with few economic resources and unfavorable emotional conditions (Mare and Tzeng, 1989). Motherhood at a late age, however, is associated with less parental involvement in school and friends. Emotional and practical aid is difficult when the age gap between mother and child is too large. In line with this reasoning, a curvilinear effect of the mother's age (at the birth of the respondent) on verbal ability is expected. A 'too-old' and a 'too-young' mother negatively affects verbal ability.

3.3 Data and measurements

3.3.1 Family Survey of the Dutch Population 2000

This section describes the Family Survey Dutch Population 2000 (De Graaf, De Graaf, Kraaykamp and Ultee, 2000). This survey consists of a computer-assisted face-to-face interview in combination with a self-administered questionnaire. The sample of the non-institutionalized Dutch population between age 18 and 74 was drawn randomly from the registers of a stratified sample of Dutch municipalities. In total, 1,561 respondents were interviewed successfully (response rate: 41 percent). This moderate response rate is due to the fact that both partners had to be interviewed for a successful response. The distribution of the educational level of the sample resembles that of the population to a large extent. Therefore, the most important variable in this research does not suffer from selective response. The dataset is restricted to respondents from 30 to 74 years of age, who did not live with their parents. This selection accounts for possible age-effects in verbal ability. After the age of 30, relatively few changes in verbal ability may be expected as a result of age-effects (Alwin, 1991; Alwin and McCammon, 1999). After omitting the cases with

missing values on central variables, and after applying the selection criteria, the working dataset consists of 1,301 respondents.

3.3.2 Measurement of verbal ability

The verbal ability measurement is constructed using a vocabulary knowledge test for survey measurement (Thorndike, 1942; Alwin, 1991). A word recognition test similar to the GSS word recognition test (Alwin, 1991) was developed for the Netherlands. This version consists of twelve words, the correct meanings of which the respondents had to choose from five possible answers. Answers are incorrect if respondents answered 'do not know' and if respondents did not fill out the verbal ability test, while they did answer the questions in the self-administrated questionnaire which directly follow the test.[1] The respondents' scores on the recognition of the twelve words are put into an additive scale (α=.76) for which values range from 0 to 12.[2] One disadvantage of the measurement of verbal ability is that some words were more common in the past than they are nowadays. It is possible that the respondents from younger birth cohorts have a lower scale-score than respondents from older birth cohorts as a result of this; they have been exposed less often to this specific selection of words. Table 3.1 shows the percentages of correct answers for the twelve words.

Table 3.1 shows that the difficulty of the words increases. The first three words are relatively simple (around 90% correct answers), while the last three words are relatively difficult (more than 50% incorrect answers). The seventh item does not reflect this pattern, and must be labeled as too easy. Overall, there is much variation in the percentage of correct answers (mean=7,80; s.d.=2,47).[3]

Table 3.1: Description of the word recognition items

Word recognition items	Percentage of correct answers
Word nr. 1	95.9
Word nr. 2	94.9
Word nr. 3	88.5
Word nr. 4	75.0
Word nr. 5	51.0
Word nr. 6	69.9
Word nr. 7	93.3
Word nr. 8	67.9
Word nr. 9	54.0
Word nr. 10	49.2
Word nr. 11	22.2
Word nr. 12	9.2

Source: Family Survey Dutch Population 2000 (N=1.301)

3.3.3 Measurement of the independent variables

To measure educational attainment, four educational groups are distinguished. Individuals who did not gain any diploma at secondary school are categorized in 'primary school'. People who completed lower general education (Dutch: mavo) or lower vocational training (lbo/vbo) belong to the group of 'lower secondary education'. Both categories are considered as low-educated. The discussion of the results focuses on these two categories. The third educational category, 'higher secondary education' is rather broad. It consists of people who have finished higher general secondary education (havo/vwo) and people who

have finished intermediate vocational training (mbo). Finally, the category 'tertiary education' is composed of people who finished vocational college (hbo), or attained a college degree (university).

Birth cohort is measured in two ways. First, in the multi-variate models, cohort effects are studied using a linear term that ranges from 0 (1927) to 44 (1971). Second, four cohort groups (1=1927-1939; 2=1940-1949; 3=1950-1959; 4=1960-1971) are constructed to analyze the changing composition of the educational groups with regard to verbal ability. In looking at cohort-effects, a major drawback is that it may be unclear whether an increase or decrease in verbal ability is caused by a cohort-effect or an age-effect (Alwin and McCammon, 1999; Glenn, 1999; Wilson and Gove, 1999a, 1999b). It is clear that age-effects in verbal ability are most profound early in life. The school and the family as socializing agents are predominantly meaningful in a person's young adulthood and adolescence. Since the analyses are limited to people of 30 years and older, possible age-effects are eliminated to a large extent. Therefore, reasonable conclusions can be drawn on the changes across birth cohorts.

Parental material resources are indicated using twelve items that refer to the situation in the parental home when the respondent was around 15 years of age. The scale measures the presence of a car, garage, camera, freezer, VCR, central heating, dishwasher, antique furniture, cleaning lady, television, holiday, holidays abroad (α=.79). Since these were not all available to the early birth cohorts, the scale is standardized for the four birth cohorts. The scale is linearly transformed and, therefore, ranges from 0 to 1. Unstandardized regression coefficients can be interpreted as the maximum difference in verbal ability between respondents with the least and the most parental material resources.

Parental cultural resources are represented using three characteristics. First, parental educational level is measured using the parents' years of schooling. The higher of the father's and the mother's scores is taken. Moreover, missing scores are imputed with the father's occupational status in 0.5% of the cases. The variable ranges between 0 and 16. Second, to measure parental cultural participation, the respondent's reports are used of parental reading of Dutch literature, translated literature, popular scientific books, and literature in a foreign language, when the respondent was 15 years of age. It was also asked how often parents visited modern and old buildings, classical concerts, opera and ballet, historical museums, art museums, and theater plays. The twelve items on cultural behavior are combined in an additive scale (α=.84), which is standardized for birth cohort, and transformed linearly (ranging from 0 to 1). Third, parental cultural occupational status is included using the scale of De Graaf and Kalmijn (1995). Respondent reports of parental occupations when the respondent was 15 years of age are taken (the higher of the father's and the mother's scores). Missing information is replaced using parental educational attainment (3.1 per cent of the cases). This variable ranges from 0 to 3.97.

With respect to *parental socio-demographic resources*, first a measure is included whether the respondent's parents had divorced before the respondent reached the age of 18. Second, the number of siblings in the parental home (1=no brothers/sisters; 2=1 or 2 brothers/sisters; 3=3 or more brothers/sisters) is used. Third, the age difference between the respondent and the mother is calculated, and to facilitate interpretation, 30 is

subtracted from this variable, which results in a range of -16 to 18. The square of this variable is also calculated to model a curvilinear effect.

Gender is included as a control (0=male; 1=female), because it is expected to be associated with verbal ability. First, the educational careers were longer for men than for women. Therefore, they may have higher scores on verbal ability than women. Second, in traditional families, parents are willing to invest more in boys than in girls with respect to their future life chances. As a result, the verbal ability of women might be lower than that of men. Table 3.2 shows the descriptive statistics for all variables.

Table 3.2: Description of the variables

Variables	Average	standard deviation	minimum	maximum
Verbal ability score	7.80	2.47	0	12
Primary education	0.14	0.35	0	1
Lower secondary education	0.27	0.44	0	1
Higher secondary education	0.31	0.46	0	1
Tertiary education	0.28	0.45	0	1
Birth year	26.24	11.39	0	44
Female	0.50	0.50	0	1
Parental economic resources	0.50	0.29	0	1
Parental educational attainment	3.27	3.88	0	16
Parental cultural participation	0.50	0.21	0	1
Parental cultural occupational status	1.13	0.88	0	3.97
Single-parent family	0.05	0.21	0	1
Single child	0.05	0.21	0	1
One or two siblings	0.43	0.50	0	1
Three or more siblings	0.52	0.50	0	1
Age difference mother-respondent	0.03	5.86	-16	18
Age difference mother-respondent squared	34.33	47.24	0	324

Source: Family Survey Dutch Population 2000 (N=1.301)

3.4 Results

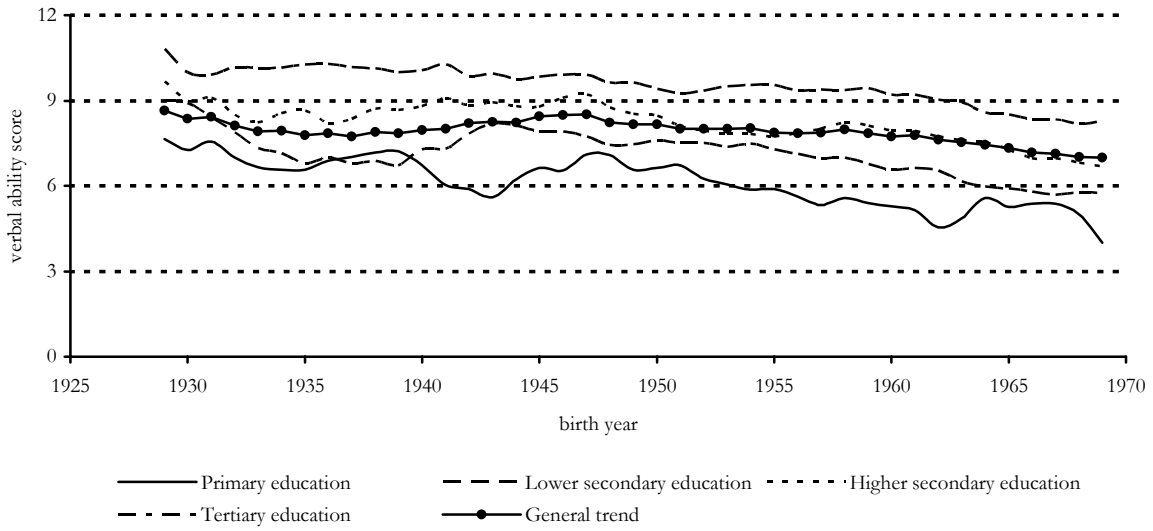
3.4.1 Descriptive analyses

This section first presents descriptive information. After that, a discussion of the multivariate results follows. There is a strong association between verbal ability and educational attainment (r_{xy}=0.42). This association indicates that educational qualifications are important in predicting verbal ability. It also implies, however, that education and verbal ability are not identical. Studying both concepts separately seems appropriate and preferable. Figure 3.1 shows the trends in verbal ability for four educational groups. The trends reflect the influence of birth year on the level of verbal ability for each educational group. The average verbal ability score for each birth year is calculated, and to correct for random variation, a moving average of five years (including the two years before and the two years after the birth year) is used.

Figure 3.1 first shows that the grand average of verbal ability declines slightly. The averages of the educational groups show a steeper drop, which means that in the past, the average was determined to a large extent by the high number of low-educated people, while nowadays the high-educated are overrepresented and therefore determine the trend to a greater extent. Furthermore, there is a clear pattern of association between educational attainment and verbal ability. For almost all birth years, the verbal ability scores of the

lowest educated are below those of the other educational groups. Since the lines for the educational groups do not converge or diverge, there seems to be a similar association between education and verbal ability across cohorts. It is interesting to note that although the differences between the educational groups did not change, the distance of the low-educated to the general average actually became larger. This is a sign of marginalization.

Figure 3.1: Verbal ability in 2000 of educational groups across birth cohorts (5-year moving averages)



To what extent do these trends reflect age-effects or cohort-effects? It has already been said that there is no pre-test of initial intelligence available, which makes it more difficult to determine the causal order between education and verbal ability. Nevertheless, only people older than 30 years were included in the analysis, and since it is reasonable to assume that age has its strongest influence early in life, these trends probably refer to cohort-effects. Previous research into verbal ability (Alwin and McCammon, 1999) indicates that age only explains a small part of the inter-cohort differences in verbal ability. Therefore, the preliminary conclusion is that, across cohorts, the level of verbal ability declines more or less equally for all educational groups.

3.4.2 Multi-variate analyses

To test the hypotheses, three OLS regression models are estimated. The base-line model depicts the bivariate association between educational level and verbal ability. Besides gender and birth cohort, the parental economic, cultural, and socio-demographic resources are accounted for in the second model. In the third model, interactions between the educational groups and birth year are included. For marginalization of the low-educated to take place, the interactions between having a low level of education and birth cohort must be negative.

Table 3.3: Regression of verbal ability on educational attainment, cohort, and control variables

Variables	Model 1	Model 2	Model 2
Educational attainment			
Primary education	-2.88**	-2.75**	-2.73**
Lower secondary education	-2.18**	-1.88**	-2.06**
Higher secondary education	-1.39**	-0.98**	-0.84*
Tertiary education (ref)			
Female (0/1)		-0.36**	-0.35**
Birth year (0-44)		-0.06**	-0.06**
Parental resources			
Parental economic resources (0-1)		-0.25	-0.24
Parental educational attainment (0-16)		0.04	0.04
Parental cultural participation (0-1)		0.93**	0.93**
Parental cultural occupational status (0-3.97)		0.19*	0.19*
Single-parent family (0/1)		0.04	0.03
Single child (ref)			
One or two siblings		0.47	0.48
Three or more siblings		0.30	0.30
Age difference mother-respondent (-16-18)		0.02*	0.03*
Age difference mother-respondent squared (0-324)		0.00	0.00
Cohort * education interactions			
Primary education*birth year			-0.00
Lower secondary education*birth year			0.01
Higher secondary education*birth year			-0.01
Tertiary education*birth year (ref)			
Constant	9.23**	9.57**	9.58**
Adjusted R-squared	18.1 %	28.3 %	28.2 %

Source: Family Survey Dutch Population 2000 (N=1.301)

The results in Table 3.3 (Model 1) show that, on average, respondents with primary education have a verbal ability score 2.88 points lower than respondents with tertiary education; on a scale between 0 and 12, this is a substantial difference. Respondents with lower and higher secondary education score respectively 2.18 and 1.39 lower than the highest educated. Model 2 controls for parental features, birth cohort, and gender. Evidently, the educational effects remain highly significant, indicating that, controlled for the possible selection based on parental and demographic background characteristics, educational attainment is important for predicting verbal ability. The unstandardized coefficients for the educational groups drop slightly.

Model 2 also indicates that the respondent's verbal ability score is higher if he or she originates from a more advantaged parental background. The cultural background of a person is particularly important; people from culturally advantaged families have on average a verbal ability score 0.93 points higher than people from culturally disadvantaged families. Furthermore, it seems to matter whether parents work in cultural occupations, like in teaching, writing, and journalism (b=0.19). Surprisingly, the educational level of parents does not affect a person's verbal ability. Once the educational qualifications of a respondent are taken into account, parental educational attainment is no longer associated with the person's verbal ability.[4] No significant effect is found of the amount of parental material resources on verbal ability. For parental socio-demographic resources, however, Model 2 shows that the larger the age gap between the respondent and mother, the higher the respondent's verbal ability. The other parental socio-demographic resources are insignificant.

The influence of gender is negative and significant; women on average score 0.36 points lower on verbal ability than men.[5] This finding contradicts the findings of research into educational gender differences. It has been shown, for instance, that nowadays women are better educated than men (Ganzeboom, 1996; Keuzenkamp and Oudhof, 2000).

Like in the GSS (Alwin, 1991), birth year negatively affects verbal ability; people from the later birth cohorts score lower on verbal ability than people from the earlier cohorts (b=-0.06). There are several possible explanations for this effect. First, fertility may differ between social groups (Cook, 1951; Preston and Campell, 1993). If groups that on average score lower on general intelligence have an above average level of fertility, the population level of intelligence logically declines. However, family size and birth order (Zajonc and Bargh, 1980; Zajonc, 1986) do not explain inter-cohort differences in verbal ability (Alwin, 1991) and therefore this explanation can be disregarded. Second, Glenn (1994) showed that a general decline in literacy, resulting from a decreased level of reading, and an increased level of television watching, may explain a part of these inter-cohort differences. A third explanation may be that the test-taking abilities of people have changed over time (Tittle and Rotolo, 2000). If people were taught to learn factual knowledge in the past, while children learn to apply knowledge nowadays, it is possible that children are nowadays less able to score well on word recognition tests that rely on factual knowledge of words. A fourth explanation can be found in the 'cumulating knowledge deficit hypothesis' (Hayes, Wolfer and Wolfe, 1996), which argues that, if texts in schoolbooks became less complex over time, children nowadays have less reading and general language abilities than in the past. A final explanation that is found in the literature is that the observed decrease in SAT scores and other measures of cognitive abilities is due to the incomparability of measurements over time (e.g., Alexander, 1997; Roeleveld, 2002). Since each respondent in the present cross-sectional study was exposed to the same test, this explanation does not seem to be valid here.

Model 3 in Table 3.3 shows that all interactions of education and cohort are insignificant. Therefore, it cannot be concluded that educational differences in verbal ability increased across cohorts when people with primary education are compared with the academically educated. The same is true if persons with a lower secondary education are compared with the highest educated. Furthermore, a comparison of the percentage of correct answers per word for birth cohort, shows that especially words 5 and 6 show a steep drop in correct answers for the people born after 1960. Excluding these words from the scale does not lead to a different trend, and it does not result in an alteration of the results presented thus far. A conclusion therefore is that the educational group hypothesis is not confirmed in this respect. Low-educated people from the later birth cohorts do not score lower on verbal ability scores than the low-educated from the earlier birth cohorts, if their scores are compared with the scores of the highest educated.

3.4.3 The homogeneity of the educational groups

The association between education and verbal ability did not show a marginalization of the low-educated with regard to verbal ability across cohorts. However, marginalization

may also be indicated by increasing homogenization. The stable relationship between education and verbal ability that was found may be caused by an increased homogeneity of the group of low-educated, while at the same time, the group of high-educated became increasingly heterogeneous with respect to verbal ability. The question is whether this process has taken place.

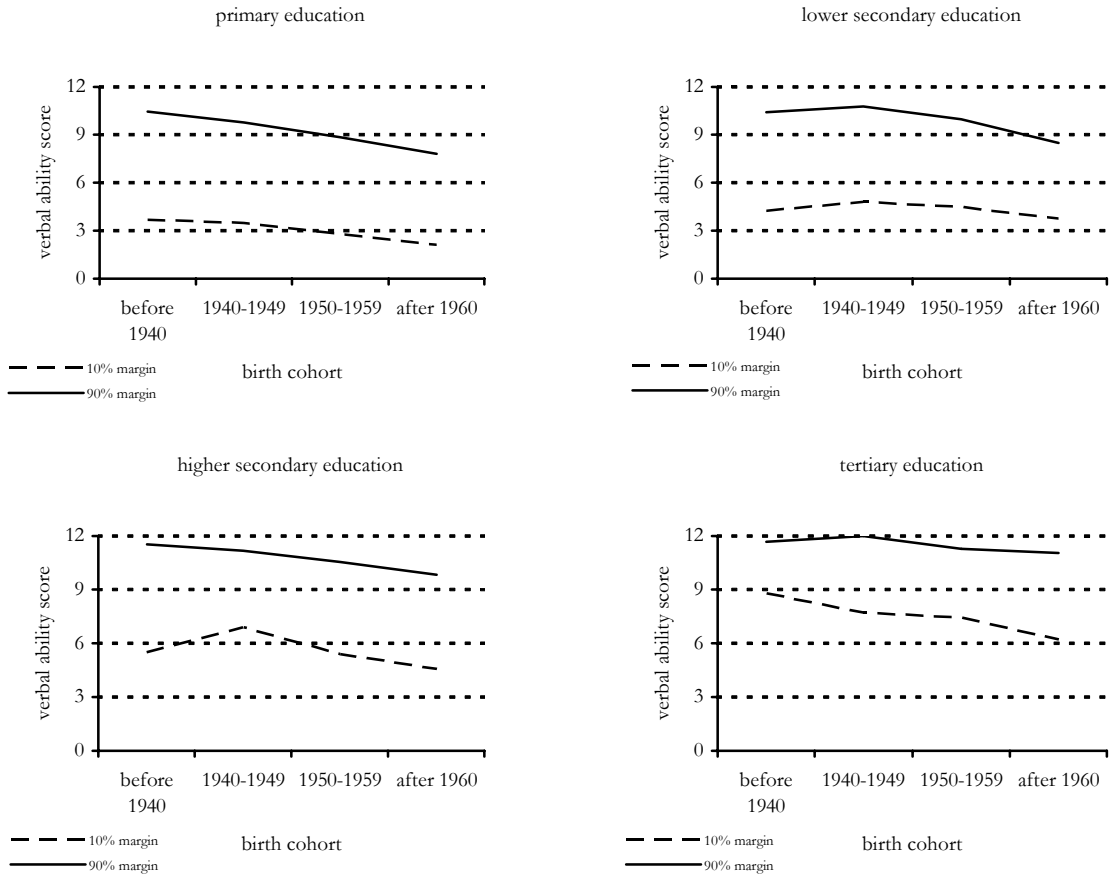
To investigate this phenomenon, marginal values in verbal ability (upper 10% and lower 10%) are computed for educational groups per birth cohort, assuming a normal distribution of verbal ability for educational groups and birth cohorts. The marginal values express between which verbal ability scores 80 per cent of the people in such an educational group (in a cohort) is situated. For instance, those with primary education from the first cohort (before 1940), score an average of 7.06 on verbal ability (s.d.=2.63). A calculation of marginal values then leads to 3.69 for the lower margin, and 10.43 for the upper margin (+1.28 = (x - 7.06)/2.63 =-1.28).

Table 3.4: Marginal values for upper-lower 10 per cent of the verbal ability score distribution for four birth cohorts and the educational groups

	Verbal ability	
Birth cohort	Marginal values	Standard deviation
	Primary education	
Before 1940	3.69-10.42	2.63
1940-1949	3.48-9.76	2.45
1950-1959	2.80-8.84	2.36
After 1960	2.11-7.80	2.22
	Lower secondary education	
Before 1940	4.24-1.38	2.40
1940-1949	4.79-10.75	2.33
1950-1959	4.47-9.94	2.14
After 1960	3.78-8.46	1.83
	Higher secondary education	
Before 1940	5.49-11.53	2.36
1940-1949	6.88-11.18	1.68
1950-1959	5.41-10.55	2.01
After 1960	4.58-9.82	2.05
	Tertiary education	
Before 1940	8.77-11.66	1.13
1940-1949	7.71-12.00	1.70
1950-1959	7.43-11.30	1.51
After 1960	6.22-11.03	1.88

Source: Family Survey Dutch Population 2000 (N=1.301)

Figure 3.2: Marginal values in verbal ability of educational groups across birth cohorts



Source: Family Survey Dutch Population 2000 (N=1.301)

Figure 3.2 shows these marginal values. It shows that, for the lowest educated (primary education), a slight trend towards convergence is apparent. This tendency in the expected direction indicates that the group of the lowest educated has become somewhat more homogeneous with respect to verbal ability over time. Although Table 3.4 shows a decreasing variance for the lowest educated between the first and the last birth cohorts (from 2.62 squared to 2.22 squared), this trend towards increasing homogeneity does not reach significance ($F=1.40$: critical F-value=1.85 for $p < 0.05$). However, this may be due to a relatively small number of cases for both cohorts. Moreover, since the average verbal ability has dropped, and since the dispersion decreased, the figure shows an outflow of more talented people over time. It can be concluded, therefore, that marginalization of those with primary education has taken place. The group with lower secondary education also displays the expected trend towards convergence. Since the difference in variance between the first and the last cohorts is significant ($F=1.72$: critical F-value=1.45 for $p < 0.05$), the conclusion is that, for the group of lower secondary-educated, convergence in verbal ability also took place. Figure 3.2 illustrates that the group with higher secondary education is fairly stable with respect to verbal ability. The marginal values of the educational groups show a more or less parallel pattern across cohorts. The difference

between the variances of the first and the last birth cohorts for this educational group is insignificant (F=1.33: critical F-value=1.52 for $p < 0.05$). The highest educated (tertiary education) clearly express a pattern of growing heterogeneity in verbal ability. The lines in Figure 3.2 show divergence over cohorts. There also is a significant difference between the variances across the cohorts (F=2.75: critical F-value=1.58 for $p < 0.05$). Therefore, increasing homogeneity in verbal ability occurs for the low-educated, and increasing heterogeneity was found among the highest educated. The fact that both developments go hand in hand explains the insignificant interaction coefficients between education and birth year in Table 3.3, but at the same time, gives rise to the conclusion that the low-educated are becoming increasingly marginalized.

3.5 Conclusions and discussion

In this chapter, two research questions were stated with regard to the relationship between education and verbal ability. The first research question was: To what extent does educational attainment affect verbal ability? The results show that in the Netherlands, there is a strong association between education and verbal ability. Since in the higher levels of education more attention is paid to literacy education, people with lower educational attainment score low on verbal ability. Education is not the only important factor for the prediction of verbal ability; parental resources are also important. Parental cultural occupational status and parental cultural participation especially promote verbal ability. In addition, having a mother who is not too young helps a person to achieve a higher level of verbal ability. As a consequence, low-educated people from advantaged backgrounds have the opportunity to achieve higher levels of verbal ability despite their relative disadvantage in terms of schooling.

The second research question dealt with the issue of how the effects of educational attainment on verbal ability changed across birth cohorts, and the extent to which the group of low-educated people became more homogeneous across cohorts. Since better opportunities to attain a higher education were created for each group in society, it was assumed that talented people can more easily find their way in the educational system nowadays. Therefore, the expectation was that the relationship between education and verbal ability would have become stronger over time. The regression analyses did not confirm this expectation. Yet, the research into the homogeneity in verbal ability of educational groups did reveal that the low-educated experience marginalization. Besides an outflow of talented people from the group of low-educated people, another consequence of the growing openness of the school system has been that the highest educational levels are more easily attainable for moderately talented people. Thus, across birth cohorts, the low-educated have become more homogeneous in verbal ability whereas the highest educated have become more heterogeneous. Although a decrease in ascription-based allocation of talents in the school system has not led to a stronger relationship between education and verbal ability, it has changed the composition of the educational groups with respect to verbal ability. A downside of educational expansion,

therefore, is that it has marginalized the low-educated with respect to their cognitive abilities.

The increasing marginalization of low-educated people may have implications for research into the allocation of social positions. Particularly in studies of occupational status and unemployment risks of low-educated people, it seems relevant to take into account that the low-educated nowadays are less talented than they were in the past. Although their average level of verbal ability compared to that of high-educated people has not changed, the group of low-educated people nowadays may be perceived by employers as less productive than in the past; there is little hidden talent left in this group. The inclusion of explicit measures of cognitive ability in this kind of research can, therefore, serve as an enhancement.

Notes

[1] The verbal ability test was skipped by 13 respondents, while the questions immediately following the test were answered. This pattern is considered as having answered incorrectly, because it can be supposed that, if respondents know the correct meanings of the words, they would not have skipped the questions. It shows that 10 of the 13 persons are low-educated. The inclusion of these respondents hardly alters the multi-variate results.

[2] In the American literature, the items are mostly treated as Likert-scale items (Alwin, 1991; Alwin and McCammon, 1999). However, since the items differed in difficulty, Guttman-scaling (Rho = 0.77) was also employed. The results of regression models in which a word recognition scale was included that was weighted on the basis of these difficulties did not differ substantially from the results of this study.

[3] Like in the GSS, the twelve words are not presented because they will be used in future surveys. It must, therefore, be ensured that future respondents do not become familiar with these words through publications on this topic. If researchers wish to replicate this study, they may obtain the words from the author of this study, from Dr. P. de Graaf and Dr. G. Kraaykamp, the initiators of this Ph.D. project.

[4] Model 2 were also estimated without the dummies for respondent's level of education, and the results showed a coefficient of 0.106 with a p-value of less than 0.01 for parental educational attainment.

[5] The internal consistency for the scale of verbal ability is calculated for women and men separately. The coefficients did not differ from each other. We also studied whether labor market participation explains the difference in verbal ability; men do not score higher because they work more hours than women.

Chapter four

Dropout in the Netherlands: a dynamic approach to the effects of social background and the composition of the dropout category

Summary

This chapter addresses the questions regarding the extent to which family background characteristics have became less influential in predicting dropout risks in the Netherlands, and the extent to which the composition of the group of people who failed to gain a diploma at the secondary level of education became more or less selective with regard to family background. These questions are answered using the Family Survey Dutch Population 1992, 1998, and 2000. Discrete-time event-history models showed that parental economic resources became less important for predicting the dropout risk, while the influence of parental cultural resources and parental socio-demographic resources remained unchanged. Only parental education became less influential. There were some signs that the composition of the dropout group became more unfavorable with regard to social background. With regard in particular to parental occupational status, parental cultural capital, size of the family of origin, and the divorce of parents, the composition of the dropout group became more unfavorable compared to the non-dropout group. It was shown that the dropout group became less selective over time only with regard to parental financial resources. Since especially parental cultural capital, parental education, and parental divorce remain important predictors for the dropout risk in the latest birth cohorts, it is concluded that nowadays the group of low-educated people is mostly a group that is culturally lagging behind and suffers most from the consequences of family break-down.

4.1 Introduction

In research on social inequalities in industrialized society, there is a growing interest in the life chances of low-educated people (Gesthuizen and De Graaf, 2002; Solga, 2002). Western society has seen a rapid educational expansion, resulting in the number of low-educated people being substantially decreased (Shavit and Blossfeld, 1993). There are several reasons why this decrease may have led to a more precarious social situation of the low-educated. First, educational expansion has a negative impact on the labor market opportunities of those without qualifications or with low educational credentials, because their position in the labor queue weakens correspondingly (Thurow, 1975). Second, the decrease in the number of low-educated people probably has led to an increasing negative selection with regard to social background and cognitive abilities. The group of children leaving school without a proper qualification probably has an increasingly homogeneous composition with respect to socio-economic origins and cognitive abilities. Indeed, it has been found that low-educated people score increasingly homogeneously on verbal ability tests in the Netherlands (Gesthuizen and Kraaykamp, 2002). Research has shown that in Germany the low-educated increasingly have inferior socio-economic family background characteristics (Solga, 2002). If employers are noticing this selectivity, the negative label of school failure today may have resulted in an increased stigmatization of the low-

educated as being less talented and resourceful, and thus as being less attractive employees. Similar arguments can be made for opportunities on the marriage market and for social connections: if having a low level of education becomes associated with social failure, the societal position of the low-educated may become precarious, and social isolation becomes a serious risk.

This chapter examines change in the social origins of the low-educated in the Netherlands, that is, persons who left secondary education without a qualification. A first aim is to study the extent to which influences of various family background factors have changed over time. Secondly, we want to examine the extent to which the composition of the group of low-educated people has changed with regard to the different family background characteristics. The first question is much in line with standard research on the relationship between family of origin and educational attainment, though this chapter focuses on one special category of school leavers. The second question looks at the same phenomenon from the other viewpoint. What are the socio-economic, socio-cultural, and social characteristics of the decreasing number of low-educated people in Dutch society? This is an important question, because theories on statistical discrimination argue that people are not only judged on their own qualities but also on qualities of the social category they belong to. With regard to educational qualifications, statistical discrimination is especially important, since employers use educational qualifications as a major indicator of the productivity of new employees (Arrow, 1973; Thurow, 1975). Employers not only do so because educational credentials represent labor market skills, but also because credentials represent trainability and general cognitive abilities. When leaving school without a qualification is increasingly associated with low levels of social capital and cognitive abilities, the low-educated run a high risk of becoming marginalized.

Who exactly become dropouts? In research on the determinants of educational attainment, many family background factors have proven to affect the dropout risk (Rumberger et al, 1990; Ashtone and McLanahan, 1991; Meesters, 1992; Teachman et al, 1996; Rumberger and Thomas, 2000; Kalmijn and Kraaykamp, 2003). A general theoretical notion is that parents' impact on children's school career depends on their economic, cultural, and socio-demographic resources (Schneider and Coleman, 1993). The fewer resources parents have, the higher the risk that their children leave school without a qualification.

Has the influence of family background on the dropout risk changed over time? It has been shown that in the Netherlands the impact of family background on educational attainment has decreased during the 20th century (De Graaf and Ganzeboom, 1993; De Graaf and Luijkx, 1995b). This decrease is completely in line with the finding that there has been a long-term trend towards more social mobility in the Netherlands (Luijkx and Ganzeboom, 1989). Given the overall downward development in the effects of family background in the Netherlands, it is tempting to argue that the dropout risk must be decreasingly dependent on family background. However, this might be a premature conclusion. Dropping out of school is an event that occurs relatively early in the life-course, at an age when children are still strongly dependent on their parents. The deteriorating labor market opportunities of the low-educated in the Netherlands (Gesthuizen and De Graaf, 2002) may have made parents more sensitive to the risk their

children run if they leave school without a qualification. If resourceful parents use their influence on children to prevent them from leaving school early, while less resourceful parents are unable to accomplish this, there might even be a development in the other direction, namely to increasing effects of family background. Our research question on changing effects is: *to what extent do parents' economic, cultural, and socio-demographic resources affect the risk of leaving school without a qualification in the Netherlands, and to what extent have the effects of parents' economic, cultural, and socio-demographic resources on the risk of leaving school without a qualification in the Netherlands changed over time?* Life-course data and event history models will be used to answer this question.

The social composition of the group of the low-educated has great influence on the consequences of being lower educated. Some 80 percent of the Dutch labor forces work in the service sector (Ganzeboom et al., 1987). The low-educated will experience problems in gaining access to skilled manual work. Additionally, if they are also considered as being unattractive for unskilled jobs in the service class because they are stigmatized as lacking social skills and cognitive abilities, their labor market opportunities are becoming low indeed. If the effects of family background factors change over time, the social composition of the low-educated may change as well and, as the next section will show, due to structural change, the social composition of the group of lower educated can even change when the effects of family background are stable. Our research question on compositional changes is: *To what extent has the group that leaves school without a qualification in the Netherlands become more or less selective on parental economic, cultural, and socio-demographic resources?*

These research questions are addressed using life-course information from three retrospective life-course surveys, collected in 1992, 1998, and 2000, with a total of 3,790 respondents. The sample is representative for the Dutch population. The dropout risk will be studied in a life-course perspective, and event-history models will be estimated to assess developments in the effects of family background.

4.2 Theory and hypotheses

The question of who exactly becomes a dropout is addressed first. It is common sociological knowledge that parental resources and children's cognitive ability contribute strongly to the explanation of school failure. Parental resources can be of various types; this chapter will distinguish between economic, cultural, and socio-demographic resources. *Economic resources* may affect the dropout risk because parents need money to finance their children's educational career. In the Netherlands, the state pays most of the costs of schooling, but parents have to contribute too, for instance with regard to books, fees, and other direct costs of schooling. In addition, economic resources may affect children's educational attainment because of the perceived opportunity costs in extending their educational career. Parents with lower levels of economic resources fear that their children will miss out on income if their educational career is prolonged (Breen and Goldthorpe, 1997), and therefore will have lower educational aspirations, resulting in them to stimulating their children to earn an income at a relatively young age (Boudon

1974, Sewell and Hauser, 1980). Another way of approaching this issue is to consider that children in poorer families are socialized with the idea that material possessions are more worth striving for than cognitive development (Inglehart, 1990). In the Netherlands, a moderate positive relation between financial wealth and educational success has often been established (De Graaf et al, 2000). In the United States, an increased dropout risk is found for children with a low parental socio-economic status as well (McNeal, 1995, 1999; Teachman et al., 1996), and it can be expected that this will also be found for the Netherlands.

A family's *cultural resources* will affect children's educational achievement (Bourdieu and Passeron, 1977; DiMaggio, 1982; De Graaf, 1986; De Graaf et al, 2000). Children from families with low levels of cultural resources are socialized in a cultural pattern in which school-related virtues are less prominent (Lareau, 1987; De Graaf et al., 2000; Kalmijn and Kraaykamp, 2003). These children experience a friction between the home environment and the dominant culture at school. Therefore, their school results are poorer than the results of children who do possess parental cultural capital. Parents' cultural capital is often measured by their cultural participation and reading behavior, and much research has come up with substantive effects (see also Farkas, 1996 and Kraaykamp and Dijkstra, 1999). In addition, parents with lower levels of cultural resources may be less successful in helping their children with homework. It is important to note that not only selection in schools, but especially self-selection is at work here. Parents with low levels of cultural resources may have lower educational aspirations for their children, and therefore may be less involved in their children's school career than parents with more cultural resources. Cultural capital will probably have a large effect on the dropout risk, since leaving school early is not acceptable among the cultural elites.

Various measures of social capital have been used to predict children's educational outcomes (Lin, 1999). This chapter concentrates on the structural component of *parental socio-demographic resources*, that is on family structure. Intensive contact between parents and children is a necessary condition to transmit resources (Coleman, 1988), to monitor children, and to intervene in their school career (Schneider and Coleman, 1993). In one-parent families, the parent-child contact often is not optimal (Amato, 1993; Schneider and Coleman, 1993; Fischer and De Graaf, 2001). In addition, time and monetary constraints will have negative effects on children from single-parent families. Further indicators of a less than optimal family structure may be found in families in which the mother was very young when she gave birth to her children. With regard to large families, the 'resource dilution' hypothesis argues that parents have less time and resources to offer per child (Blake, 1981; Steelman and Powell, 1989; Downey, 1995; Sui-Chu and Willms, 1996).

Social mobility studies have shown that, in general, family background effects on educational attainment and occupational achievement have decreased in the Netherlands (De Graaf and Ganzeboom, 1993: Luijkx and Ganzeboom, 1989). It might be expected that this will hold for all types of parental resources, but especially for the economic resources.

As we have suggested, family background may directly influence the risk that a child drops out of the education system, but it is also likely that indirect influences are at work; through attended secondary school type, for example. In the Netherlands, children choose between three types of secondary education after primary school. The lowest level is lower vocational training (Dutch: LBO), next to which there are two levels of general training offered. The lower level of general training (MAVO) prepares children for middle level vocational training (MBO), and the higher levels of general education (HAVO and VWO) prepare children for high level vocational or training or university (HBO and WO). Parents with fewer resources tend to have lower educational aspirations for their children than parents with more resources (Boudon, 1974; Breen and Goldthorpe, 1997). Consequently, They are not that much concerned about sending their children to the higher levels of secondary education, which prepare children for higher tertiary education. If the culture to perform is less prominent at the lower secondary education levels, children from less advantaged family backgrounds experience a higher dropout risk. Therefore, the dropout risk might negatively relate to the level of secondary education, so that the level of secondary education explains some part of the relationship between family background and dropout. Note that children who have learning problems in the higher types of secondary education can always make the transition to a lower level, and thus continue their educational career without dropping out, whereas children who face serious learning problems in low vocational training have no other option than to leave school altogether (Kalmijn and Kraaykamp, 2003).

Our second research question is whether changes in the effects of family background have resulted in a changed composition of the group of lower educated. Solga (2002) pointed out that if the impact of family background is stable over time, a decline in the proportion of lower educated in the educational distribution leads to an increasingly homogeneous composition of the group of lower educated. For the situation in Germany, Solga has shown that the gap between the low-educated and the high-educated has grown (Solga, 2002). For the Netherlands, however, the case is less clear, with several scenarios being possible. One scenario is that the effects of family background on the dropout risk follow the general Dutch pattern: the effects of family background decrease over time. In that case it is likely that the group of lower educated becomes less homogeneous with regard to family background, since parental resources become evenly distributed over the dropouts and the non-dropouts. However, the decreasing size of the group of lower educated might neutralize this tendency, which makes the outcome unclear. Another scenario is that selection increasingly depends on family background. If this is the case, it is very likely that the group of lower educated will become more homogeneous over time, since the two developments now work together: the group size decreases and the effect of family resources on the dropout risk becomes stronger.

4.3 Data and measurements

4.3.1 Family Surveys Dutch Population 1992, 1998, and 2000

To determine what is going on in the Netherlands, data from the Family Surveys Dutch Population 1992, 1998, and 2000 are used (Ultee and Ganzeboom, 1993; De Graaf, De Graaf, Kraaykamp and Ultee, 1998; De Graaf, De Graaf, Kraaykamp and Ultee, 2000). These repeated cross-sectional surveys are based on computer-assisted face-to-face interviews and self-completion questionnaires. The surveys include detailed retrospective information on the educational career and on the family of origin. The three independent samples of the non-institutionalized Dutch population between 18 and 70 years of age are drawn randomly from the registers of a random sample of Dutch municipalities. The spouses of the primary respondents were interviewed using exactly the same questionnaires. They are treated as independent observations. The response rates of 42 percent, 47 percent, and 41 percent are relatively low because both partners (if the primary respondent was living with a partner) were to be interviewed. A non-response analysis shows that the samples hardly differ from the Dutch population with regard to age, region, and educational attainment. Therefore, the effects of family background on the dropout rate probably will not be affected by selective non-response. Respondents who did not live in the Netherlands before the age of 12 are excluded, since their educational careers did not take place in the Netherlands (196 cases). Altogether, information was gathered on the complete educational career of 3,790 respondents.

4.3.2 Measurement

Respondents who *never attained a secondary school qualification* are categorized as dropouts. There are two groups of dropouts. The first group did not attend any type of secondary education after primary school, and the second group consists of dropouts from secondary education. Not enrolling into any secondary education after primary school occurred more often to respondents in the older birth cohorts, while in later cohorts the majority of the dropouts did participate in secondary education, but dropped out at a later stage of their educational career.

The Family Surveys Dutch Population include detailed retrospective information on assets in the parental household that relate to parents' financial wealth, which is the first indicator of *parental economic resources*. Like all other retrospective measures of family background, the questions refer to the situation when the respondent was 15 years of age. Parental wealth is measured by a sum scale of a subset of at least 11 of the following 16 items: possession of a car, garage, camera, freezer, VCR, central heating, dishwasher, antique furniture, telephone, washing machine, laundry dryer, garden, and television set, and whether the family had holidays abroad, had a cleaning lady and a nanny. Since some of these assets were not available to older birth cohorts (central heating, VCR) or are not very relevant for the economic well-being of younger cohorts (car, television), the measurement has been standardized within four birth cohorts (1940 and older, 1940-1949, 1950-1959, 1960 and younger). The reliability coefficients of the

resulting scales are sufficiently high (Cronbach's alpha is 0.80, 0.68, and 0.80 for the surveys of 1992, 1998, and 2000 respectively). Proportional rank scores are calculated (for each of the three surveys separately) to simplify the interpretation of the effects of this variable in the regression analysis, since now the minimum score is zero and the maximum score is one. The second indicator of parental economic resources is parental occupational status. The higher of father's or mother's occupational status is used, as measured by the ISEI scale developed by Ganzeboom, De Graaf and Treiman (1992). For interpretation purposes, the original scale is transformed to a variable that ranges from zero to one.

Parental cultural capital, the first indicator of *parental cultural resources*, is indicated by parental cultural participation and reading behavior. The items are visits to modern and old buildings, classical concerts, opera and ballet, historical and art museums, and theatre plays. The cultural capital scale also includes reading items: frequency of father's and mother's reading of Dutch literature, translated literature, and literature in a foreign language. The internal reliabilities of the resulting scale are high (Cronbach's alpha is 0.85, 0.82, and 0.85 for the three surveys). Again, proportional rank scores that vary between zero and one are computed. The second indicator of parental cultural resources is the parents' level of schooling (the highest level of father's and mother's educational attainment measured in years). Linear transformation has resulted in a continuous variable that ranges from zero to one.

The number of siblings, a parental divorce, having a young mother, and having lost one or both parents through death, are our indicators for *parental socio-demographic resources*. Three categories for the number of siblings are distinguished: the respondent is an only child, has one or two siblings, or has three or more siblings. Parental divorce was coded only if the respondent's parents divorced when the respondent was younger than 15. Since there is no information on parental divorce in the 1992 questionnaire, an indicator of missing information on parental divorce will be included in the analysis. If the mother was 23 years or younger when the respondent was born, she is classified as a young mother. If one or both parents of the respondent died before the respondent was 15 years old, the respondent is coded as having grown up in an incomplete family due to death.

Four types of last *attended school type* are distinguished: primary school (for respondents who never attended secondary education) and three types of secondary education; lower vocational training (VBO), lower general education (MAVO), and higher general education (HAVO or VWO). Note that with the exception of lower vocational training, entry to all other types of vocational training is not possible without a qualification in secondary education. Control variables in all models will be age and sex.

4.4 Results

4.4.1 Changes in the effects of family background on leaving school without a qualification

Table 4.1 presents descriptive information on all variables used in the analysis for all respondents, and separately for the dropouts and the non-dropouts. Table 4.1 shows that some 12 percent of the respondents left school without a qualification in secondary education. Table 4.1 further shows that dropouts are disadvantaged with respect to all types of resources. The dropouts more often originate from families with lower levels of economic and cultural resources, relatively often come from large families, are more likely to have a relatively young mother, and are relatively often not raised in complete families. Note, however, that the differences between the dropouts and the non-dropouts here are not controlled for the possible confounding effects of birth cohort. Leaving school without a qualification happened relatively often to respondents from older cohorts, and since older cohorts in general had lower levels of parental resources than younger cohorts, part of the relationship is spurious. The direct effects of resources on the dropout risk must be modeled in a multivariate framework, including controls for age.

Table 4.1: Descriptive statistics

	Dropouts N=464		Non-dropouts N=3,326		All N=3,790	
	mean	*s.d.*	*mean*	*s.d.*	*Mean*	*s.d.*
Dropout status (0/1)	-	-	-	-	0.12	*0.33*
Female (0/1)	0.59	*0.49*	0.49	*0.50*	0.50	*0.50*
Year of birth – 1923 (0-55)	26.14	*10.97*	34.58	*11.28*	33.55	*11.57*
Parental economic resources						
Parental occupational status (0-1)	0.43	*0.16*	0.52	*0.19*	0.51	*0.19*
Parental financial resources (0-1)	0.39	*0.27*	0.52	*0.28*	0.50	*0.28*
Parental cultural resources						
Parental education in years (0-1)	0.12	*0.17*	0.29	*0.24*	0.27	*0.24*
Parental cultural capital (0-1)	0.35	*0.24*	0.52	*0.29*	0.50	*0.29*
Parental socio-demographic resources						
Only child	0.03	*0.18*	0.04	*0.20*	0.04	*0.20*
One or two siblings	0.33	*0.47*	0.45	*0.50*	0.44	*0.50*
Three or more siblings	0.63	*0.48*	0.50	*0.50*	0.52	*0.50*
Parents divorced (0/1)[a]	0.08	*0.28*	0.04	*0.18*	0.04	*0.20*
Young mother (0/1)	0.17	*0.37*	0.11	*0.31*	0.12	*0.32*
One or both parents died (0/1)	0.09	*0.29*	0.06	*0.24*	0.07	*0.25*
School type attended						
Primary education (0/1)	0.32	*0.47*	-	-	0.04	*0.19*
Lower vocational secondary education (0/1)	0.41	*0.49*	0.42	*0.49*	0.42	*0.49*
Lower general secondary education (0/1)	0.21	*0.40*	0.33	*0.47*	0.32	*0.47*
Higher secondary education (0/1)	0.07	*0.25*	0.25	*0.43*	0.23	*0.42*

Source: Family Survey Dutch Population 1992, 1998, and 2000.
[a] Based on 2,986 cases (347 dropout and 2,639 non-dropouts), since the 1992 survey does not include information about parents' divorce.

To estimate the effects of parental resources on the dropout risk, discrete-time event-history models are used (Allison, 1984; Yamaguchi, 1991). The effects on the conditional risk of leaving school without a qualification in a given year are estimated, given that the respondent is still at school. This survival analysis starts at the respondent's age 12—the

age at which children finish primary education in the Netherlands—and finishes when the respondent gains a qualification in secondary education or when the respondents become 22 years old. The reason for this upper age limit is that at the age of 22 only a few of the respondents without a qualification are still in school. In discrete-time event-history models, the units of analysis are person-years; with each respondent having records for all years he or she is at risk of leaving school without a qualification. The models are then estimated using simple logistic regression. Discrete-time event-history models offer a straightforward and flexible way of including time-dependent covariates in the analysis. The total number of person-years is 20,554 records, and 459 out of 3,790 respondents have experienced leaving school without a qualification. Note that the retrospective life-course design makes dealing with left-truncation unnecessary.

Two event-history models are estimated for all respondents together and for four birth cohorts separately. The first model includes age, sex, year of birth (for all respondents only), and all types of parental resources as independent variables to predict the dropout risk. Parental divorce, the death of one or both parents, school type, and age are included as time-varying variables. The second model adds type of secondary school attended to the set of predictor variables. In this second model, the effects of parental resources will probably be lower than in the first model, since resources and level of secondary education will be correlated.

Model 1 for all respondents shows that parents' financial resources have a strong effect on the dropout rate. Children from the most affluent families have a 51 per cent lower dropout risk than children who grew up in relatively poor families ($e^{-0.67}$). The effect of parental occupational status, however, as a second indicator of economic resources, is insignificant. Both indicators of parental cultural resources have strong effects on the dropout rate. The odds of leaving school without a qualification is almost 90 percent lower for children with high-educated parents than the odds for children with lower educated parents ($e^{-2.12}$). Children from families with high levels of cultural capital have a 78 percent lower odds of leaving school without a qualification than children from families with low levels of cultural capital ($e^{-1.51}$). Socio-demographic resources also play a significant role. Children of divorced parents have 163 percent higher odds of drop out than children from intact families ($e^{0.97}$). Respondents with young mothers have 88 percent higher odds of leaving school without a qualification than respondents with older mothers ($e^{0.60}$). Children who grew up in a large family, or who experienced the death of one or both parents, do not seem to experience significant difficulties at school. Model 1 further shows that the dropout risk increases with age. At age 18 and older the odds are 97 percent higher than at age 16 or 17. Women have, on average, 75 percent higher odds of leaving school without a qualification than men. Note that all the large effects of family background are net of the cohort effect, which is rather large itself. For every successive year, the dropout risk has decreased by about six percent, which represents a strong decrease over the time frame of the data of more than 50 years.

Model 2 includes the type of school attended. As expected, the type of secondary education affects the dropout rate considerably, and partially explains the effects of parental resources. Compared to the effects in Model 1, the effects of parental financial resources, educational attainment, cultural capital, divorce, and having a young mother

Table 4.2: The effects of parental resources and school type attended on leaving school without a qualification; discrete-time event-history regression models

	All		Birth Cohort								Year of birth interactions[b]		
			before 1940		1940-1949		1950-1959		after 1960				
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Effect 1940	Effect 1970	p-value
Age 12-13	-1.55**	-2.58**	-0.47	-1.91**	-1.72**	-2.49**	-2.23**	-3.09*	-4.18*	-4.87*	-1.10	-3.71	0.00**
Age 14-15	-0.19	-0.47**	0.52	-0.02	-0.02	-0.18	-0.39	-0.68*	-1.31**	-1.48*	0.23	-1.15	0.00**
Age 16-17 (ref.)													
Age 18 and older	0.68**	0.85**	0.20	0.33	0.77	0.85*	0.51	0.66	1.07*	1.32**	0.40	1.09	0.11
Female (0/1)	0.56**	0.61**	0.80**	0.76**	0.71**	0.78**	0.20	0.42*	0.10	0.32	0.79	-0.14	0.00**
Year of birth (0-55)	-0.06**	-0.04**	-	-	-	-	-	-	-	-			
Parental economic resources													
Parental occupational status (0-1)	-0.45	0.06	-0.13	0.13	-1.81**	-1.56*	0.37	1.00	-0.41	0.45	-0.82	0.74	0.04*
Parental financial resources (0-1)	-0.67**	-0.53**	-0.99**	-0.97*	-0.50	-0.29	-1.62**	-1.40*	0.16	0.37	-0.97	0.29	0.01**
Parental cultural resources													
Parental educational attainment (0-1)	-2.12**	-1.77**	-2.40**	-2.38**	-2.50**	-2.13**	-1.42*	-1.13	-1.56*	-0.82	-2.56	-1.12	0.02*
Parental cultural capital (0-1)	-1.51**	-1.16**	-1.59**	-1.21**	-0.70	-0.50	-2.23**	-1.84*	-2.12**	-1.55**	-1.65	-1.11	0.24
Parental socio-demographic resources													
Only child (ref.)													
One or two siblings	0.02	0.08	0.52	0.47	-0.75	-0.64	0.64	0.44	0.19	0.38	0.02	0.03	0.99
Three or more siblings	0.16	0.16	0.74	0.63	-0.75	-0.70	0.66	0.27	0.49	0.62	0.20	-0.23	0.81
Parents divorced[a]	0.97**	0.74**	0.99	0.71	0.60	0.33	1.69**	1.56**	0.94*	0.60	0.91	1.07	0.71
Young mother	0.60**	0.47**	0.78**	0.66*	0.79**	0.59*	0.56	0.48	0.22	0.12	0.76	0.25	0.10
One or both parents died	0.17	0.19	0.03	0.23	0.59*	0.49	-0.11	-0.23	-0.48	-0.57	0.17	0.15	0.97
Attended school type[c]													
Primary education		2.29**		2.01**		1.83**		2.57**		2.07*	2.22	1.73	0.23
Lower secondary vocational education		0.68**		-0.15		0.39		1.44**		1.01**	0.39	1.33	0.00**
Lower secondary general education (ref.)													
Higher secondary general education		-0.63**		-0.35		-0.30		-0.35		-1.22**	-0.69	-0.38	0.53
Constant	-0.58	-1.78**	-2.51**	-2.67**	-0.98	-1.57*	-2.49**	-3.48**	-3.00	-4.34*			
Model chi-square	735.86**	966.53**	140.98**	229.34**	187.21**	227.51**	155.18**	218.78**	155.69**	196.83**			
Degrees of freedom	15	18	14	17	14	17	14	17	14	17			
Nagelkerke R^2	18.3 %	23.8 %	15.2 %	24.3 %	18.0 %	21.7 %	16.4 %	23.0 %	19.1 %	24.1 %			
Number of person-years	20,554	20,554	2,561	2,561	3,826	3,826	5,340	5,340	8,827	8,827			
Number of events	459	459	145	145	137	137	104	104	73	73			
Number of respondents	3,790	3,790	548	548	802	802	1,060	1,060	1,380	1,380			

Source: Family Survey Dutch Population 1992, 1998, and 2000., ** p < 0.01, * p < 0.05

a: All models include a dummy indicator for missing values on parental divorce (effect not presented). b: The interaction effects between cohort and all other variables are based on Model 1, with the exception of the interaction terms between birth cohort and school type attended which are based on Model 2. The interaction effects are estimated by including the interaction terms separately. The interaction models include multiplicative terms with a linear cohort term (year of birth– 1928). To clarify the results, the table displays the estimated effects for respondents born in 1940 and 1970. c: Lower secondary general education is chosen as a reference, because the two extreme categories sometimes contain too few cases to estimate reliable effects..

decrease by 20, 17, 23, 24, and 22 percent respectively. Furthermore, it is worth mentioning that the inclusion of attended school type in Model 2 has led to stronger age effects. This is caused by the relationship between age and school type attended, specifically by the strong association between 'attending primary school' and 'being 12 years old'. The effects of these two categories should be interpreted with care.

To what extent have the effects of family background changed over time? To answer this question, Table 4.2 shows the estimates of Models 1 and 2 for four successive birth cohorts, but for a quick answer to this question we refer to the last columns of Table 2 (Year of birth interactions). The figures presented here indicate the significance of the linear trends of parental resources across cohorts for all effects of Model 1, and of the linear trend for the effects of attended school type of Model 2. The effects of both indicators of economic resources—parental occupational status and parental financial resources—have decreased over time. Evidently, the economic resources in the family of origin have lost much of their impact on a child's decision to leave school without qualification. With respect to the effect of cultural resources, there is a downward trend only in the effect of parents' educational attainment, whereas the effect of cultural capital has been stable over time. For the youngest cohort—the 1970 cohort—the effects of parents' education and cultural capital are still quite substantial. The effects of all social indicators have not changed over time. For younger cohorts it is not the family's economic resources, but rather their lack of cultural resources and a stressful family situation that are most influential for the prediction of dropout risks.

In addition, the models show that the type of secondary school attended has become increasingly important. In the cohorts born before 1940, children who attended low vocational training did not experience a higher dropout risk than children who attended middle or higher levels of general education. For the younger cohorts, however, there is a large difference in the dropout risk of children who attend lower secondary vocational and children who attend general education. Lower vocational training has become the type of training in which children are most vulnerable. Our models control for the family's level of resources, so low levels of resources can not offer an interpretation for the negative effects of attending low vocational training. We believe that the explanation must be that the majority of the students who enroll for low vocational training have low levels of cognitive abilities and educational aspirations.

The historic developments in the effects of age on the dropout risk reveal the effects of changes with respect to compulsory education. The minimum age at which children are allowed to leave education increased from 13 in the 1920s to 15 in the 1980s. Accordingly, the likelihood of leaving school without a qualification before age 16 decreased drastically. For the cohorts born before 1940, children aged 14 and 15 have the same dropout risk as 16-year-olds have, whereas for the cohort born after 1960 these odds are significantly lower. Table 2 also shows that gender differences have decreased enormously over time.

A further interesting result of the models displayed in Table 4.2 is that in the youngest birth cohort, the inclusion of school type attended (Model 2) leads to a reduction of 47 and 27 percent of the effects of parental education and parental cultural capital respectively. These reductions are much higher than in the earlier birth cohorts, suggesting

that especially families with high levels of cultural capital reduce their children's dropout risk by choosing for general education instead of vocational training.

4.4.2 Changes in the family background composition of the low-educated

We will now address the issue of compositional changes. To what extent has the group of low-educated people in the Netherlands become more or less selective regarding family background characteristics? Table 4.3 presents descriptive information about changes in the level of parental resources of dropouts and non-dropouts for the successive birth cohorts. Here, the focus will be on differences in the *lack* of parental resources between the dropouts and the non-dropouts, using dichotomies of all resource variables. For parental education and socio-demographic resources, lack of resources is defined as being in the disadvantaged categories (none of the parents having higher than primary education, divorced or deceased parents, young mother, more than three siblings). There are no natural dichotomies for the indicators of parental economic resources and for parental cultural capital, and for these indicators therefore a lack of resources is defined as being in the lowest quartile of the distribution. These quartile scores are standardized across birth cohorts to make sure that the differences that may be found are not a result of changes in the distributions of the indicators.

Changes in the relationship between lack of parental resources and the dropout risk are evaluated using odds ratios. If the odds ratio between the lack of a given resource and dropping out has grown across cohorts, the dropout group has experienced a negative compositional change with respect to this type of resource. Increasing odds ratios would make it likely that third parties—like employers—increasingly associate people without educational qualifications with low levels of resources. That the effect of this would be that, in the eyes of third parties, dropouts are no longer just people without a qualification, but more specifically persons with increasingly low levels of cultural capital and other negatively evaluated characteristics. Solga (2002) refers to this process as stigmatization by negative selection. Another way to see if there are signs of negative selection is to look at percentage changes. This method does not provide solid evidence, but it does lead to interesting insights.

Table 4.3 shows that the odds ratios are rather stable across cohorts. Evidently, for younger cohorts, it is as easy, or as difficult, to predict that dropouts have low levels of resources or have dropped out from lower types of secondary school as it was for older cohorts. Only in one case did the odds ratio change significantly across birth cohorts: the relationship between a lack of parents' financial resources and dropout status has decreased over time. Looking at changes in percentages only, we observe some signs of an increasingly unfavorable situation for the dropout group. The percentage of respondents from the dropout group whose parents belong to the lowest quartile of occupational status increased from 27.7 to 38.5 percent, if the oldest birth cohort is compared with the youngest. For the non-dropout group this percentage has increased by only 2 percentage points. For having parents who belong to the lowest quartile of cultural capital, the increase across birth cohorts has been stronger for the dropout group than for the non-dropout group. Furthermore, the percentage of respondents that originate from a

large family declined less steeply for the dropout group than for the non-dropout group, while for respondents from the dropout group it became relatively more likely to have divorced parents. In conclusion, even though the changes in association do not underscore the idea of an increased negative selection of the dropout group with regard to social background, the changes in percentages do show that over time, the dropout group has undergone some unfavorable developments compared to the non-dropout group.

Table 4.3: Developments in the relationship between dropout status and lack of resources

		Birth Cohort				Significance of differences in odds ratios
		before 1940 Percentage	1940-1949 Percentage	1950-1959 Percentage	after 1960 Percentage	
Parental economic resources						
Lowest quartile parental occupational status (0/1)	dropout	31.8	41.4	30.2	38.5	
	non-dropout	23.0	21.5	24.4	24.4	
	odds ratio	**1.4**	**2.4**	**1.4**	**2.0**	not significant
Lowest quartile parental financial resources (0/1)	dropout	38.5	38.6	50.0	27.7	
	non-dropout	20.5	22.5	22.3	25.0	
	odds ratio	**4.2**	**2.4**	**3.2**	**1.2**	$p < .05$
Parental cultural resources						
Low-educated parents (6 years maximum)	dropout	77.0	73.1	53.8	36.9	
	non-dropout	50.5	38.2	32.0	15.4	
	odds ratio	**3.3**	**4.4**	**2.5**	**3.2**	not significant
Lowest quartile parental cultural capital (0/1)	dropout	39.9	40.7	50.9	47.8	
	non-dropout	19.0	22.5	22.1	24.0	
	odds ratio	**2.0**	**2.1**	**3.8**	**3.6**	not significant
Parental socio-demographic resources						
Large family (three or more siblings)	dropout	68.2	63.5	63.2	52.3	
	non-dropout	61.3	62.9	58.8	34.8	
	odds ratio	**1.4**	**1.0**	**1.2**	**2.1**	not significant
Parents divorced (0/1)	dropout	5.5	7.2	10.7	13.5	
	non-dropout	1.4	2.0	2.2	5.6	
	odds ratio	**4.2**	**3.8**	**5.3**	**2.6**	not significant
Young mother (0/1)	dropout	13.5	20.0	14.2	21.5	
	non-dropout	7.0	7.5	8.9	15.6	
	odds ratio	**2.1**	**3.1**	**1.7**	**1.5**	not significant
One or both parents died (0/1)	dropout	10.8	11.7	4.7	6.2	
	non-dropout	9.2	6.5	6.8	4.6	
	odds ratio	**1.2**	**1.9**	**0.7**	**1.4**	not significant
Number of respondents		548	802	1,060	1,380	

Source: Family Survey Dutch Population 1992, 1998, and 2000.
** $p < 0.01$
* $p < 0.05$

4.5 Conclusions and discussion

The aim of this chapter was to investigate whether the decreasing proportion of the Dutch population that leaves education without a qualification has become a more or less selective group with respect to family background. To answer this question, developments in the relationship between family background and the dropout risk across birth cohorts

were addressed first. The results of the regression models show that the dropout risk is more dependent on the cultural dimension of family background than on the economic dimension, which is in line with earlier Dutch research on educational stratification. Parental economic resources have become less important over time for the dropout risk and have lost their significance completely for cohorts born after 1960. The effects of both indicators of parental cultural resources, educational attainment, and cultural capital have also decreased, but for the cultural dimension there are still substantial effects for the youngest cohort. The effects of a family's socio-demographic resources have hardly changed over time. Attention was also paid to the dropout rates at different types of secondary education. It seems that lower secondary vocational education has become the school type where pupils with the lowest levels of educational opportunities and aspirations end up.

Second, this chapter addressed developments in the family background composition of the decreasing group of people who left school without a qualification. The rationale behind this analysis is that third parties, for example employers, but also potential friends or spouses, might increasingly associate people without a qualification with other negatively evaluated characteristics, like a lack of social or cultural capital. Our data partly support this idea. The relationship between dropout status and all types of parental resources have not changed over time, with the exception of economic resources, but here the development is in the opposite direction: the relationship between dropout status and parental economic resources has decreased across birth cohorts. On the other hand, compared to the non-dropout group, an increasing number of people from the dropout group have parents with a lower occupational status, have parents with little cultural capital, originate from large families, and experienced a parental divorce. But again, these changes did not result in an increased association between being a dropout and originating from a disadvantageous social background. Therefore, our analysis shows that third parties have little reason to discriminate younger cohorts of dropouts to a greater degree than they have done in the past.

It is interesting to note that there have been offsetting historical developments in the Netherlands that have resulted in the disadvantages that dropouts face with regard to parental social and cultural resources not changing over time. In the first place, the number of dropouts has decreased sharply, which suggests that dropouts increasingly come from disadvantaged families. This would have negative implications for their life chances, since dropouts would have a double handicap: not only would they have no qualification, but they would also have deteriorating levels of resources. This pessimistic scenario, however, is nullified by a second historical development, that is the decreasing effects of family background on educational outcomes. The decreasing effects of various economic and cultural indicators of family background cause the lower number of dropouts in the younger cohorts to be distributed more evenly between families with higher and lower levels of resources. Ultimately, there is little reason to evaluate the decreasing category of dropouts in the Netherlands as being less endowed with family resources. Labeling theories are more appropriate when decreases in the number of lower educated correspond with more stable effects of family background on the dropout risk, as seems to be the case for Germany (Solga, 2002).

In this chapter, we are not suggesting that the low-educated do not face deteriorating opportunities in Dutch society. During the last forty years, the labor market opportunities of the low-educated have worsened, especially for younger people. Additionally, negative trends have been observed with regard to social participation. Neither do we want to argue that these negative developments most likely are not caused by a changing composition of the low-educated with regard to their social background. Although, to a large extent, dropouts are from families with low levels of resources, our analysis shows that this tendency has not changed over time. The likelihood that a dropout is from a disadvantaged family does not differ much between birth cohorts born in the 1960s and 1970s and birth cohorts born in the 1940s.

Chapter five

Low education and labor market success: a dynamic analysis

Summary

This chapter describes economic risk of low-educated people in the Netherlands, describes trends in economic risk of low-educated people, and explains this economic risk by looking at three labor market outcomes that indicate labor market success, or a lack of it: becoming unemployed, and experiencing upward mobility as well as downward mobility during the occupational career. Discrete-time event-history results on more than 320,000 person-months show that low-educated men and women are more likely than high-educated men and women to become unemployed and to experience downward mobility, and less likely to experience upward mobility. Only a small part of the disadvantage that low-educated people face is caused by their higher probability of originating from families where a lack of labor market success is directly transmitted from parents to children. A more important factor for explaining this is their relative inability to use and accumulate additional human capital during their life-course. In most cases, low-educated people did not become more marginalized over their life-course or over birth cohorts. Low-educated women, however, have fallen further behind. Finally, other resources, like parental resources and additional human capital, are able to partly compensate the lack of qualifications of low-educated people, while for high-educated people their qualification is enough to provide them with a successful occupational career.

5.1 Introduction

In Western societies, education plays a key role in labor market success (Blau and Duncan, 1967; Shavit and Müller, 1998). The extent to which people are integrated in the labor market, and the resources they receive from it in terms of income, status, and social contacts with colleagues, determine the opportunities they receive in other, non-economic life domains (Gallie, 1999; Gallie, Paugam and Jacobs, 2003). Since qualifications to a large extent shape individual opportunities, people without qualifications belong to a vulnerable group. This chapter will study the economic marginalization of low-educated people in the Netherlands.

Studies that specifically focus on low-educated people's labor market outcomes show that people who enter the labor market without any qualifications, or with a lower secondary school qualification, have more problems finding a job than people who start searching for employment and who have better qualifications (Gesthuizen and De Graaf, 2002). Young low-educated people also leave their existing employer more often than young people with high levels of education (Lynch, 1991). This suggests that the transition from school to work is more problematic for young, low-educated people. Furthermore, in their early career, low-educated people find jobs that have a relatively low occupational status (Gesthuizen and De Graaf, 2002) and more often accept jobs for which only elementary job skills are required (Solga, 2002). A lack of qualifications also

results in lower rewards: young, low-educated people earn significantly lower wages than young people with high educational levels (Lynch, 1992; Veum, 1995; Kalmijn and Van der Lippe, 1997). Other studies show that the gap between lower educated people and high-educated people that is evident in the early career, is still present in later stages of people's occupational career. For older employees, education still independently affects career opportunities (Blau and Duncan, 1967; De Graaf and Luijkx, 1995a; Warren, Hauser and Sheridan, 2002).

Although the relationship between education and occupational outcomes is one of the most extensively researched in the field of social inequality, an explicit focus on people with a lack of qualifications is not very common. The studies that do assess labor market success of low-educated people (e.g. Solga 2002), mainly look at specific moments in the occupational career, for instance, first job or current job. This chapter looks at labor market success of low-educated people throughout the complete life-course. This is important because it provides insight into the extent to which the economic risk of low-educated people *changes* over the life-course. Moreover, due to a lack of longitudinal life-course data, the measures available for educational attainment often relate to the highest level ever attained. If occupational positions throughout someone's life-course are studied, a causal confusion with the highest attained educational level is not unrealistic, because many people complete their highest education during their occupational career. These causal difficulties can be avoided in this study, because the Family Survey Dutch Population 2000 (FSDP2000) (De Graaf, De Graaf, Kraaykamp and Ultee, 2000) contains the respondent's complete retrospective educational career and occupational career. Therefore, there is the possibility to construct a person-period file in which detailed individual life histories are constructed for which the causal order of life events is clear. Three events are specified that indicate labor market success: becoming unemployed, experiencing an upward shift in occupational status, and experiencing a downward shift in occupational status. Because they are related to educational attainment in a dynamic perspective, we can provide a better answer to the following question previously posed: (1) *To what extent does labor market success differ between low-educated people and high-educated people?*

Two processes might explain why low-educated people have less labor market success than high-educated people. First, low-educated people might have a relative lack of human capital compared to high-educated people. This chapter indicates human capital with cognitive ability and the acquisition of additional human capital. Second, the group of low-educated people probably consists of a disproportionate share that originate from a disadvantaged social background, where a relative lack of labor market success is transmitted from one generation to the other (Grusky, 2001). If we assume that a direct effect of social background on labor market success exists, and if originating from a disadvantaged social background leads to a higher probability of becoming low-educated, then the effect of education on occupational outcomes will be partly spurious. So, (2) *to what extent can the difference in labor market success between low-educated people and high-educated people be explained by differences in human capital, and by taking social background into account?* Furthermore, the possible direct influences of social background and human capital on labor market success also indicate why some low-

educated people have more labor market success than others. Additionally, differences in labor market conditions will also be considered when answering the question regarding why some low-educated people achieve more on the labor market than other low-educated people.

This second research question provides new insights in two ways. First, with the incorporation of the acquisition of additional human capital in a dynamic manner, new conclusions can be drawn about how educational inequalities develop during the occupational career. Much research assumes that people who enter the labor market with a lack of qualifications remain unqualified for the rest of their life-course. However, after leaving formal full-time education, there are many opportunities to gain new occupational skills. Employers can pay for formally arranged training for their employees at, for instance, training institutes, individuals can increase their occupational skills by personally investing in courses, and it is also possible to attain additional formal qualifications through adult education. From the FSDP2000, it is evident that the acquisition of additional formal qualifications should not be underestimated. 58 percent of all respondents have completed one or more forms of additional training between leaving school and age 40. Depending on whether low-educated people attain less additional human capital during their life-course than high-educated people, inequalities will not remain constant during the occupational career, but will actually increase.

Second, including cognitive ability gives more insight into the question regarding the extent to which employers select workers on the basis of talent, and on the basis of what people learn at school. It thus provides additional knowledge on how education allocates people into occupational positions. Although social inequality researchers often acknowledge that it is important to study cognitive ability as a central allocation criterion of occupational positions (Sewell and Hauser, 1975; Hauser and Huang, 1997), they have often failed to measure it separately from educational attainment.

In post-industrial societies, the labor market success of insufficiently qualified people is restricted. Is it the case that during the life-course and across birth cohorts, the economic risk of this group increases? There are at least two arguments that support this view. The first argument relates to the idea that education is a positional good (Hirsch, 1977; Ultee, 1980; Wolbers, 1998). The competition for labor market success that low-educated people experience increases, if the share of high-educated people in the 'employment arena' increases. The second argument is that if the people who flow out of the group of low-educated people originate from the relatively advantageous social backgrounds, and have the relatively highest cognitive ability, the group of low-educated people that remains behind does worse in the competition for employment because available ‘hidden talent’ (Van Heek, 1968) has become increasingly scarce (Solga, 2002). Summarized in the third research question: (3) *To what extent has the difference in labor market success between low-educated and high-educated people grown during the life-course and across birth cohorts?*

Hout (1988) has shown that the influence of social background on destination status is strong for individuals without a bachelor degree, while for college graduates this influence is absent. This implies that low-educated people can (partly) compensate a lack of qualifications with other resources. Could it be that not only parental resources, but also

human capital, and favorable labor market conditions are more important for enhancing labor market success of low-educated people than for high-educated people? This might be plausible because in the eyes of employers, low-educated people might have to 'prove' their worth with other characteristics, while for high-educated people their qualification provides sufficient indication. The final research question reads: (4) *To what extent are the effects of social background, human capital, and labor market conditions stronger for low-educated people than for high-educated people?*

For several reasons, special attention will be paid to differences between labor market success of low-educated women and low-educated men. First, although the educational expansion in the Netherlands started later for women, recent cohorts of women are on average better qualified than men (Keuzenkamp and Oudhof, 2000). Thus, trends in labor market success for low-educated women might differ from the trends for low-educated men. Second, women are still disadvantaged with respect to labor market success compared to men. There are higher unemployment percentages among women and, when controlled for occupational status, women earn significantly lower wages than men (De Ruijter, Van Doorne-Huiskes and Schippers, 2003). These differences might be related to the 'double perspective': the employment-related decisions of women depend on career and care motives, while for men the care motive is less influential, which causes women to invest less in human capital than men. Therefore, women experience a wage penalty, because employers are more reluctant to invest in women than to invest in men (De Ruijter et al., 2003).

5.2 Theory and hypotheses

5.2.1 The explanation of labor market success of low-educated people

A basic hypothesis is that (see Figure 5.1, path A) (h1) *people who enter the labor market with a low educational level have less success during their occupational career than people who enter the labor market with a high educational level.* Two processes might explain this difference. The first argument is the 'resource explanation'. According to human capital theory, people learn skills at school that make them more productive in the labor process (Becker, 1964). Arrow (1973) acknowledges that the skills learnt at school are not always the ones that are necessary for specific jobs. According to the screening theory, education indicates that people are able to learn something, which makes education an indicator of trainability. Therefore, employers use education as an efficient screening device to select potential employees who are able to quickly learn the specific skills of a job. Since education indicates the extent to which people are able to acquire additional skills, it can be expected that people with a lack of qualifications find it more difficult than high-educated individuals to produce and accumulate the additional human capital required to make them more productive during their occupational career (Figure 5.1, path B*C).

This chapter considers two relevant forms of additional human capital, the first of which is cognitive ability. For employers, the most attractive workers are the ones who are

the most trainable (Arrow, 1973; Thurow, 1975; Wolbers, De Graaf and Ultee, 2001). Cognitively able people are likely to need less time to learn relevant job skills than cognitively less able people, because generally, they have less difficulty with—and acquire more satisfaction from—understanding complex processes. This might mean that cognitively able people better understand how the specific parts of the performance of a job relate to each other, so that they will be more efficient in achieving the final 'product' of the job. Previous research has shown that cognitive ability is developed at school (Alwin, 1991; Gesthuizen and Kraaykamp, 2002). Therefore, as a result of their relatively lower level of cognitive development, low-educated people are probably less attractive for employers than high-educated people, which might result in a higher unemployment risk, a lower probability of experiencing an upward shift in occupational status, and a higher probability of experiencing a downward shift.

Additional human capital is the second relevant human resource. According to Rosen (1972), additional human capital increases marketable skills or knowledge and, consequently, the employee's income. The labor market success of workers varies therefore with the degree in which they have human capital and are able to accumulate it during the life-course (Becker, 1964; Ben-Porath, 1967). Low-educated people might be less successful in accumulating additional human capital over the life-course than high-educated people. If level of education is an indication of trainability (Arrow, 1973; Thurow, 1975; Wolbers, De Graaf and Ultee, 2001), employers could be less willing to pay for the training of low-educated people than for the training of high-educated people. Research into on-the-job training indeed found evidence that low-educated workers receive less additional training paid by the employer than higher educated workers (Mincer, 1962, Duncan and Hoffman, 1979; Altonji and Spletzer, 1991).

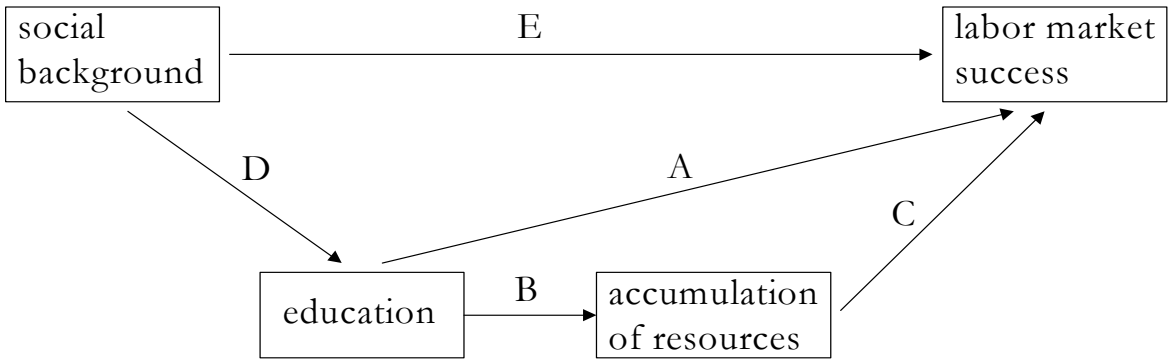
Different mechanisms might be at work for personally paid training. The position someone occupies in the labor queue depends on the amount of their accumulated human capital (Thurow, 1975). Because on the one hand, high-educated people already start their occupational career with a high level of human capital, investments in still more formal or informal education might not lead to a substantial strengthening of their position in the labor queue. Low-educated people on the other hand, might have a lot to gain in terms of labor market success if they increase their specific job skills by personally paying for additional training, and by investments in adult education. It is, however, also quite plausible to assume that low-educated people have fewer incentives than high-educated people to finish any kind of additional training. People with a low level of education have not been socialized in a learning environment in the way that high-educated people have been. Moreover, the generally lower cognitive ability of low-educated people might also make them less capable of acquiring any form of formal additional human capital. Also, a relative lack of financial resources might also result in fewer investments in career improvement. It can, therefore, also be assumed that compared to people with a high level of education, low-educated people invest less in additional training and adult education.

In the results section of this chapter, differences in the acquisition of formal additional training between the educational groups will be assessed to see whether personally paid additional training and adult education might intermediate the relationship between education and labor market success. In the Netherlands, evidence has been found

that educational level is positively associated with attending formal training during the occupational career (Steijn, Need and Gesthuizen, 2003). For now, it is assumed that overall, low-educated people are less likely to accumulate additional human capital over their life-course than high-educated people. The second hypothesis sums up the resources explanation: (h2) *because people who enter the labor market with a low level of education have a lower cognitive ability, and accumulate less additional human capital during their occupational career, they have less labor market success during the occupational career than people who enter the labor market with a high education.*

In order to draw conclusions with regard to the resource explanation, we first have to observe the allocation effect of education on labor market success. Therefore, it is important to assess whether the effect of education on labor market outcomes is partly spurious. This is the second argument: the 'selection explanation'. If social background directly affects labor market success (Figure 5.1, path E), and if social background also affects educational attainment (Figure 5.1, path D), then the influence of education on labor market success will become smaller if social background is taken into account (Figure 5.1, path A). Indeed, people who enter the labor market with low levels of education often originate from families in which the parents had jobs with a lower status (Blau and Duncan, 1967; De Graaf, 1986). There are several reasons to expect a direct effect from social background on children's labor market success. The fact that the parents have elementary jobs might be translated in a lower occupational aspiration for their children, and the possibility that these parents lack cognitive, cultural, and socio-demographic resources leaves their children with relatively few social network resources. Thus, the low level of the person's education might also include the effect that parents with a lower occupational status are more likely to transmit unsuccessful labor market careers to their offspring than parents with a higher occupational status. Previous research on selection mechanisms, where a perfect correction for social background was employed by means of sibling analysis, did not show a severe bias in the relationship between education and labor market success (Hauser and Mossel, 1985; Van Eijck, 1996; Sieben and De Graaf, 2001). Nevertheless it is important to exclude selection effects in the impact of education on labor market success. The following prediction therefore is: (h3) *After the occupational status of the parents is taken into account, the difference in labor market success decreases between people who enter the labor market with a low educational level and those who enter the labor market with a high educational level.* Figure 5.1 summarizes the resource and selection explanation.

Figure 5.1: The resource and selection explanation



5.2.2 Labor market success of low-educated people over the life-course and across birth cohorts

It is not only important to assess if and why low-educated people experience economic marginalization compared to high-educated people. If over the life-course and across birth cohorts, divergence in labor market success takes place, a growing economic disadvantage is found. Two processes will now be described that could be causes of a trend toward increasing economic risk. First, all Western societies have experienced an educational expansion (Shavit and Blossfeld, 1993). Of all employees who entered the Dutch labor market between 1950 and 1959, 75 percent had low educational qualifications (37,6 percent primary education and 35,9 percent lower secondary education), while somewhat more than 10 percent had a higher vocational or university degree (Wolbers, 1998). In the 1980-1991 cohort, only 32 percent are low-educated, while the percentage of tertiary educated workers increased to 23 percent. The fact that education is a positional good (Thurow, 1975; Hirsch, 1977; Wolbers, 1998) could therefore have resulted in deteriorating possibilities for low-educated people to be competitive at the labor market.

Second, not only did the size of the group of low-educated people decline, its composition was subject to changes as well. For Germany, findings show that the group became an increasingly negative selection with regard to social background (Solga, 2002). The people from relatively advantageous backgrounds did gain qualifications in the

course of time. For the Netherlands, there is evidence that this group became more homogeneous and scored lower with regard to cognitive ability (Gesthuizen and Kraaykamp, 2003). Given that many people gain qualifications after labor market entrance, the same processes might occur over the life-course. Summing up, as a result of a negative selection process (Solga, 2002), and therefore a loss of hidden talent within the low-educated group (Van Heek, 1968), decreasing labor market success across birth cohorts and over the life-course might have taken place. Due to a decrease of advantageous attributes within the group of low-educated people, its members might be increasingly excluded by employers and other members of society, and therefore receive fewer opportunities during their occupational career as well as fewer opportunities for developing social contacts. Note that it is not necessary that the group's composition actually did become more negatively selective for exclusion to take place. Since education increasingly plays a key role in contemporary society, low-educated people might be excluded anyway. Nevertheless, if, across birth cohorts and during the life-course, the group of low-educated people experiences more competition and becomes more negative selection, then labor market success compared to high-educated people correspondingly declines. It can be expected that: (h4) *Across birth cohorts and during the life-course, the difference in labor market success has grown between people who entered the labor market with a low level of education and people who entered the labor market with a high level of education.*

5.2.3 Within-group differences, and differences in the impact of social background and human capital between educational groups

Which factors can explain that some low-educated people experience less labor market success than other low-educated people? The selection and resources argument highlighted the notion that parental resources, cognitive ability, and additional human capital might explain the differences in labor market success *between* low-educated people and high-educated people. The same factors, supplemented by macro-economic labor market conditions, are also important when trying to explain differences in labor market success *within* the group of people who entered the labor market with a low level of education.

First, people who entered the labor market with a low level of education might vary in the extent to which their parents have resources to help them during their occupational career. Hout (1988) has provided the evidence that 'origin status affects destination status among workers who do not have bachelor's degrees, but [that] college graduation cancels the effect of background status'. If one has a high education, it does not matter what one's origin is, because own resources will probably have the strongest influence during a person's occupational career. By the same token: if one does not have a high education, it might be of substantial importance to have parents with human capital. These resources can be used to stay in, or to get ahead in working life, and they function as positive signals for employers. Thus, people who entered the labor market with a low education, and who have parents with a lower occupational status, have less labor market success than low-educated people with a more resourceful social network.

Second, education as an indicator of cognitive abilities is most important in the early occupational career. After that, personal contact and working experience are more direct ways of estimating an employee's potential (De Graaf and Luijkx, 1995a). If an employer perceives someone as being a 'clever' person who quickly learns the necessary job skills, it becomes more likely that the employer is willing to invest in this person, independent of the person's educational qualifications. Thus, cognitive ability reduces the risk of becoming unemployed and increases the probability of experiencing an upward shift in occupational status. Therefore, people who entered the labor market with a low educational level and who are cognitively less able, experience less labor market success than low-educated people with a higher cognitive ability.

Third, within the group of low-educated people, many attended formal education before labor market entrance without having completed it, and many finish formal additional training during their occupational career. From the FSDP2000 (De Graaf et al, 2000) it shows that at age 40, 20 percent of the people who entered the labor market without a qualification have received additional training paid by the employer, 16 percent have personally paid for additional training, and 31 percent gained a formal qualification in adult education. People who entered the labor market with a low level of education, and who were less able to accumulate additional human capital before and during their occupational career, are expected to have less labor market success than people who entered the labor market with a low level of education, but who were able to accumulate additional human capital over the life-course. Not only does the first category lack the qualifications on the basis of which employers select and keep their workers, but they have also emitted an additional negative signal of being unable to learn necessary job skills.

Fourth, the final factor that may explain the variation in labor market success within the group that entered the labor market with a low level of education, are the macro-economic labor market conditions. Low-educated people who enter the labor market in unfavorable economic conditions, or who are working in economically advantageous times, might be more able to secure and even upgrade their occupational position than low-educated people who experience economic downturns.

All the factors mentioned above might not only explain why some low-educated people have less labor market success than others. They may also be more important for low-educated people to have than for high-educated people (Hout, 1988). In the eyes of employers, high-educated people have already 'proven' themselves by gaining the qualification, and therefore might not be overly interested in other characteristics of the person. If an employer is considering hiring a low-educated person, he or she is inclined to evaluate the low-educated person's other characteristics in order to get an indication of that person's abilities. It might therefore be more helpful for low-educated people to originate from an advantageous social background, to be cognitively able, and to have accumulated additional human capital than for high-educated people. In times of economic depression, a higher educated person might also find a job more easily than a low-educated person, while in economically favorable periods, low-educated people reduce the gap again with the high-educated people. This implies that for low-educated people, economic conditions have a stronger impact on labor market success than for

high-educated people. The fifth and final hypothesis reads: (h5) *The influences of social background, cognitive ability, additional human capital, and advantageous economic conditions on labor market success are stronger for low-educated people than for high-educated people.*

5.3 Data and measurements

5.3.1 The Family Survey Dutch Population 2000

To test the hypotheses formulated in this chapter, we used the Family Survey Dutch Population 2000 (De Graaf et al., 2000) used. It is composed of a computer-assisted face-to-face interview and a self-administered questionnaire. The sample of the non-institutionalized Dutch population between 18 and 70 years old was drawn randomly from the registers of a stratified sample of Dutch municipalities, which included the four largest cities. Even though the response rate is not very high (41 percent), the 1561 respondents reflect the population to a large extent . Because there is a planned under-representation of single persons, the age distribution is not completely representative. The gender distribution and the education distribution do not differ from the population (De Graaf et al., 2000).

The respondent's occupational career, which was asked retrospectively, was used to construct a person-month file. For each month after the respondent left formal full-time education for a period of at least one year, a new record with information on employment, for instance, was written to a new dataset. Since for each job that the respondent had in his or her career the starting dates and finishing dates (years and months) were asked, the person-month file exactly shows in which month the respondent was employed, how old he or she was at that time, and what the occupational status of that job was. Time-varying independent variables are then added to this dataset. In total, 445,295 person-months were derived from the FSDP2000. Given that the respondent had to be employed in the previous record to be at risk of experiencing the labor market events, and after eliminating the missing data, 320,543 person-months are included in the file to estimate the low-educated people's labor market success.

5.3.2 Measuring labor market success

Labor market success can be divided into two parts: having a job and if so, occupational level. For having a job, one static indicator and one dynamic indicator is constructed. The first is whether or not the respondent is employed (0=no, 1=yes). This information is available for each month after the instance at which the respondent left formal full-time education for the first time, and for a period longer than one year. For the dynamic indicator, it is determined whether or not the respondent experienced a transition from employment to unemployment or disability in each month in the occupational career (0=no, 1=yes). Unemployment and disability are considered at the same time, because the

latter is often used by employers as a means of pushing employees they no longer need out of the labor market. It is partly a hidden form of unemployment.

One static indicator and two dynamic indicators are used if the respondent is actually employed. Occupational status, measured using the ISEI score as developed by Ganzeboom, De Graaf, and Treiman (1992), is constructed to statically determine an employee's job level. Missing scores are imputed on the basis of the respondent's education, gender, and age. This interval scale can range from 10 (lowest occupational status) to 90 (highest occupational status). A dynamic indicator that exemplifies an advantageous move during the occupational career is an upward shift in occupational status of at least 5 points, and a disadvantageous career move a downward shift of at least 5 points on the ISEI scale (0=no, 1=yes). Note that this upward and downward occupational mobility can occur between firms as well as within firms.

The static indicators of labor market success will be used for descriptive analyses and some static multivariate analyses. The dynamic indicators are events that can occur during the respondent's occupational career and will be used as dependent variables in the dynamic analyses. Of all 445,295 person-months, 73.2 percent are experienced in employment, and the average occupational status of these employment spells is 47. In total, 238 transitions to unemployment are observed (145 for men and 93 for women), 766 upward shifts in occupational status (519 for men and 247 for women), and 524 events of downward occupational mobility (344 for men and 180 for women).

5.3.3 Measuring parental background, individual and partner's resources, labor market conditions, and other variables

Parental occupational status when the respondent was 15 years of age is included to indicate the respondent's parental background. If both parents worked at that time, the highest of both ISEI scores is taken. If both scores were missing, a valid score is computed by imputing the average level of occupational status, estimated on the basis of father's or mother's educational level. The original range from 10 to 90 is brought back to a range from 0 to 1 using linear transformation procedures.

Several measurements indicate the respondent's individual resources. The first is the respondent's educational level at labor market entrance, measured in four categories: primary education (Dutch: basisschool), lower secondary education (vbo, mavo), higher secondary education (havo, vwo, mbo), and tertiary education (hbo, wo).

The second is cognitive ability, which is measured using a vocabulary test, also called verbal ability. For twelve words, the respondent had to pick the correct one out of five possible meanings. The correct answers are added in an interval scale with a range from 0 to 12. Since this variable is measured at the time that the survey was held, it is considered to be constant over time. We are well aware of the fact that a part of the development in verbal ability can have resulted from labor market outcomes, rather than the intermediating influence we are assuming. However, given that educational attainment is the most important predictor of cognitive development (Alwin, 1991; Alwin and McCammon, 1999; Gesthuizen and Kraaykamp, 2002), and given that the influence of labor market success is minor, verbal ability can for the most part be used to interpret the

relationship between education and labor market success. It is therefore assumed that only a minor overestimation of the percentage of explained relationship will take place.

The third indicator of individual resources is whether or not the respondent acquired additional human capital. The first is the number of years before, as well as during, the occupational career that the respondent attended school without gaining a qualification for it. First, the number of unfinished months of education for the period before the respondent entered the labor market are calculated. To this figure is added each month that the respondent had attended unfinished formal (full-time/adult) education, in a time-dependent manner. After that, the figure is divided by 12 to bring it back to years. This time-varying covariate ranges from 0 to 10. Second, additional training paid by the employer (0=no, 1=yes) is constructed. In the month that the respondent finished such a training course and the subsequent 11 months, a score of 1 is assigned, implicitly assuming that the influence on labor market success of completing a course is present in the first year after completion. The same procedure is followed to measure two other forms of formal additional human capital that can be acquired during the occupational career: personally paid additional training, and adult education. Since all mentioned forms of additional training should have taken at least 10 complete working days, spread over a period of at least two months, it is indisputable that the beginning of the training course took place earlier than the employment events. Therefore, the direction of causality runs from additional training to labor market success, and not the other way around.

Macro-economic labor market conditions are indicated by the percentage of the labor population that is unemployed in each year. In the person-month file, this percentage is attached to the months belonging to this year. Therefore, it varies over time for individuals. The percentage is lagged one year to take account of the fact that these societal developments take time to really have an impact on individual lives.

Several other variables are included. First, gender (0=male, 1=female) is constructed so that the models could be estimated for men and women separately. A second one is year of birth. This variable is used in two ways: linearly ranging from 0 (1925) to 54 (1979), and as a categorical variable with the categories ‘before 1940’, ‘1940-1949’, ‘1950-1959’, and ‘after 1960’. And finally, age is included time-dependently, using two measures: the natural logarithm of age minus 16, divided by ten, and the natural logarithm of 65 minus age, divided by ten. Including both variables at the same time is a way to model non-symmetric age effects (Blossfeld and Huinink, 1991). Year of birth and age are used to model birth cohort effects and life-course effects.

5.4 Results

5.4.1 Descriptive analyses

This section first describes the relationship between labor market success and the level of education upon entering the labor market for men and women at age 40 (Table 5.1). At this age, almost every male is employed. Of the men with only primary education, nine percent are not employed. It seems that compared to the results obtained from the labor

force surveys (Gesthuizen and De Graaf, 2002) the unemployment percentage is somewhat underestimated. The correlation between education and employment for men is weak but significant (Cramer's V=0.13). For women, there is a much clearer and stronger positive relationship between education and being employed at age 40 (Cramer's V=0,28). In all, women are less often employed than men. The lowest employment percentage is found for women with only primary education: 33,3 percent.

For both men and women, there is a clear and positive relationship between education at the time of labor market entry and occupational status at age 40 (Spearman's correlations are 0,47 and 0,43 respectively). Men and women who entered the labor market with primary education only, score an occupational status of, on average, around 41, while for tertiary-educated men and women, this average is somewhat more than 65. There are no great gender differences.

Table 5.1: Percentage of employed respondents, N=940 (489 men and 451 women) and the average level of occupational status at age 40, N=688 (464 men and 224 women).

Highest qualification at labor market entrance	Employment (0 - 1)		Occupational status (10 – 90)	
	Men	Women	Men	Women
Primary education	91.3	33.3	42.4	41.1
Lower secondary education	97.0	47.8	47.5	46.0
Higher secondary education	96.8	59.6	53.2	50.5
Tertiary education	98.8	80.0	64.4	66.1
Correlation[a]	0.13*	0.28**	0.43**	0.47**

Source: Family Survey Dutch Population 2000
** $p < 0.01$
* $p < 0.05$
~ $p < 0.10$
a: Pearson's R if both variables are measured at the interval level, Spearman's Rs if the lowest measurement level is ordinal, and Cramer's V if the lowest measurement level is nominal.

Table 5.2 presents the association between education at labor market entry and the intermediating variables, and between parental occupational status and the respondent's education. People who enter the labor market with a low level of education have parents with less advantageous jobs at the time the respondent is 15, than respondents who enter the labor market with a high education. The correlations of 0,33 and 0,32 for men and women are highly significant. Second, the average years of unfinished education is higher for primary- educated people than for the other educational groups. For both women and men there is a negative and significant correlation. Third, there is a strong, positive, and linear association between education at labor market entry and verbal ability (0,47 and 0,37 for men and women respectively). Fourth, men and women who entered the labor market with primary education have completed less additional training paid by the employer than men and women who entered the labor market with lower secondary education or higher. However, the bivariate correlations are insignificant. In all, although there does not seem to be an association between any form of additional training at age 40 and education at labor market entry, the lowest educated respondents do seem to be at a disadvantage on some points. Overall, there is substantial variation between the educational groups in social background and accumulated human capital.

Table 5.2: The association between education at the time of labor market entry, and parental resources, and individual resources at age 40, N = 940 (490 men and 450 women)

	Primary education		Lower secondary education		Higher secondary education		Tertiary education		Correlation[a]	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Av. parental occupational status (10-90)	39.6	39.4	40.1	41.1	49.9	51.0	55.9	54.0	0.33**	0.32**
Av. years of unfinished education (0-10)	1.2	1.3	0.4	0.2	1.4	0.3	0.5	0.4	-0.13**	-0.34**
Av. level of verbal ability (0-12)	6.8	6.7	7.8	7.8	9.1	8.7	9.8	9.4	0.47**	0.37**
Training paid by employer in perc.	19.8	9.2	32.8	17.6	28.0	13.1	35.4	22.0	0.13~	0.12~
Personally paid training in perc.	16.4	15.0	25.3	24.2	16.1	20.2	22.0	22.0	0.10	0.09
Adult education in perc.	31.0	14.2	38.4	24.2	40.9	29.3	22.0	18.0	0.14*	0.14*

Source: Family Survey Dutch Population 2000
** $p < 0.01$
* $p < 0.05$
~ $p < 0.10$
a: Correlation based on the two ordinal scales of own education and partner's education

Table 5.3 presents empirical findings with regard to the relationship between the intermediating variables and parental occupational status on the one hand, and labor market success at age 40 on the other. First, parental occupational status significantly influences labor market success. Both men and women attain a higher level of occupational status if their parents had a job with a higher status. No significant relationship has been found with being employed. Second, the number of years of unfinished education does not seem to be related to labor market success at all. Third, verbal ability to a large extent determines whether someone is employed, and the corresponding status of that job at age 40. Fourth, having finished additional training paid by the employer and adult education significantly increases the chance of being employed at age 40 for women. No other significant influence of additional training has been found. The multivariate models have to make clear whether the resources and selection explanation will be confirmed. The descriptive analyses have shown that there is sufficient reason to believe that this is the case.

Table 5.3: Correlation[a] of labor market success at age 40 with parental background, and individual resources.

	Employment (0 - 1)		Occupational status (10 - 90)	
	Men	Women	Men	Women
Parental occupational status (10 -90)	0.28	0.36	0.31**	0.28**
Years of unfinished education (0-10)	0.30	0.34~	0.05	-0.05
Verbal ability (0 - 12)	0.27**	0.31**	0.40**	0.43**
Training paid by employer (0 - 1)	0.09~	0.22**	0.36	0.45
Personally paid training (0 - 1)	0.00	0.08~	0.33	0.39
Adult education (0 - 1)	0.08~	0.19**	0.32	0.44

Source: Family Survey Dutch Population 2000
** $p < 0.01$
* $p < 0.05$
~ $p < 0.10$
a: Pearson's R if both variables are measured at the interval level, Spearman's Rs if the lowest measurement level is ordinal, and Cramer's V if the lowest measurement level is nominal.

5.4.2 Multivariate methods: event-history models and single age estimations

The multivariate estimation of the regression models consists of two parts. First, discrete-time event-history regression models (Allison, 1984; Yamaguchi, 1991) are estimated that show the likelihood of occupational success/failure during the respondent's occupational career. These models show how large, on average, the differences between educational

groups during the occupational career are. In addition to the possibility of incorporating sets of independent (time-varying) variables, these models allow for simultaneously incorporating age and year of birth: age varies over the individual life-course, while year of birth is a time-constant covariate. This makes it possible to use the same model to assess whether educational differences grow or decline across years of birth and during the life-course. Second, regression models of being employed and the level of occupational status at age 40 are estimated. For being employed, logistic regression models are used, and for the level of occupational status, ordinary least square estimation techniques are used. The data set for age 40 is constructed by selecting the first month from the person-month file in which the respondent was 40. Therefore, the time-varying independent variables used in the event-history analyses in this case depict the state of affairs at age 40. These models are presented to show the extent to which the predictors contribute to the labor market success that are found at this age. All models are estimated for men and women separately. The following sections will extensively describe the actual multivariate findings with regard to the specific research questions.

5.4.3 Explaining labor market success of low-educated people: the results of the event-history analyses

To what extent does the resource and selection explanation give insight into the way the differences in labor market success between low-educated and high-educated people come about? Tables 5.4, 5.5, and 5.6 present the results of the event-history analyses to answer this question. In Table 5.4, the explanandum is the event of becoming unemployed at a certain point in the occupational career, in Table 5.5 it is the experience of an upward shift in occupational status, and Table 5.6 presents the results with regard to the experience of a downward shift. We will not discuss each table separately, but discuss each relevant finding presented in Tables 5.4 through 5.6, using the resource and selection hypotheses as overarching guidelines. Three models are estimated: one for the total population, one for men, and one for women. The last column—named ‘gender interactions’—provides the information for which coefficients have to be interpreted. If no significant differences between men and women are found, only the results from the ‘total-column’ will be discussed. Otherwise, the results for men and women will be discussed separately. Model 1 includes dummies for education at labor market entry, as well as gender (for the total population only), dummies for birth cohort, the unemployment percentage, and age. Model 2 takes into account the influence of parental occupational status, and Model 3 includes cognitive ability and additional human capital. On the basis of this model, it is calculated whether gender differences in the effects of the independent variables are significant. Note that each model includes the respondent’s occupational status lagged one month. This coefficient has some substantial meaning for becoming unemployed. It is expected that it is less likely to become unemployed if one has a job with a higher occupational status. For predicting the experience of upward and downward occupational mobility, this variable is included merely to control for bottom and ceiling effects in

Table 5.4: Unemployment: the effects of formal education at labor market entry, parental background, and individual resources, discrete-time event-history models

	Total			***Men***			***Women***			Gender interactions with other independent variables[a]
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	
Primary education	1.00**	0.99**	0.82*	0.77*	0.82*	0.66~	1.41**	1.33*	1.29*	n.s.
Lower secondary education	0.54~	0.53~	0.46	0.31	0.35	0.28	0.97~	0.90~	0.87~	n.s.
Higher secondary education	0.50~	0.50~	0.46	0.21	0.23	0.17	0.91~	0.88~	0.89~	n.s.
Tertiary education (ref.)										
Women (versus men)	0.10	0.10	0.09	-	-	-	-	-	-	
Before 1940 cohort (ref)										
1940-1949 cohort	0.07	0.08	0.08	-0.05	-0.06	-0.05	0.55	0.60	0.60	n.s.
1950-1959 cohort	0.02	0.02	-0.01	-0.13	-0.13	-0.15	0.58	0.63	0.58	n.s.
After 1960 cohort	0.75**	0.75**	0.66**	0.43	0.43	0.43	1.45**	1.49**	1.34**	n.s.
Unemployment percentage	0.08**	0.08**	0.08**	0.08**	0.08*	0.08*	0.08~	0.08~	0.09*	n.s.
ln ((age - 16)/10)	-0.07	-0.07	-0.04	0.01	0.02	0.01	-0.16	-0.14	-0.06	n.s.
ln ((65 - age)/10)	-0.68**	-0.67**	-0.68**	-0.62**	-0.62**	-0.64**	-0.79~	-0.76~	-0.71~	n.s.
Occupational status (0-1)	-0.80*	-0.78*	-0.64	-1.10*	-1.16*	-1.07*	-0.44	-0.17	-0.01	n.s.
Parental occupational status (0-1)	-	-0.09	-0.04	-	0.31	0.28	-	-0.84	-0.70	n.s.
Unfinished education, years (0-10)	-	-	0.04	-	-	0.06	-	-	-0.02	n.s.
Verbal ability (0-12)	-	-	-0.06~	-	-	-0.04	-	-	-0.08	n.s.
No additional training (ref.)										
Additional training paid by employer	-	-	-0.16	-	-	-4.86	-	-	1.12*	n.s.
Personally paid additional training	-	-	0.47	-	-	-0.21	-	-	0.93	n.s.
Adult education	-	-	0.23	-	-	0.06	-	-	0.38	n.s.
Constant	-7.42**	-7.39**	-6.94**	-7.02**	-7.16**	-6.78**	-8.26**	-8.01**	-7.68**	
-2 Log Likelihood	3825.20	3825.14	3819.97	2340.77	2318.18	2332.09	1476.56	1474.46	1466.93	
Degrees of freedom	11	12	17	10	11	20	10	11	20	
Number of events	238	238	238	145	145	145	93	93	93	
Number of person-months	320543	320543	320543	203519	203519	203519	116934	116934	116934	

Source: Family Survey Dutch Population 2000

** $p < 0.01$, * $p < 0.05$, ~ $p < 0.10$

a: These interactions are based on Model 3 for all respondents.

Table 5.5: Upward mobility: the effects of formal education at labor market entry, parental background, and individual resources, discrete-time event-history models

	Total			***Men***			***Women***			Gender interactions with other independent variables[a]
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	
Primary education	-1.26**	-1.09**	-0.95**	-1.32**	-1.15**	-0.93**	-1.13**	-0.94**	-1.14**	n.s.
Lower secondary education	-1.07**	-0.90**	-0.76**	-1.08**	-0.92**	-0.73**	-1.06**	-0.89**	-0.93**	n.s.
Higher secondary education	-0.70**	-0.61**	-0.58**	-0.73**	-0.64**	-0.55**	-0.58*	-0.48*	-0.58*	n.s.
Tertiary education (ref.)										
Women (versus men)	-0.41**	-0.42**	-0.37**	-	-	-	-	-	-	
Before 1940 cohort (ref)										
1940-1949 cohort	0.01	-0.01	-0.09	0.05	0.04	-0.06	-0.13	-0.19	-0.17	n.s.
1950-1959 cohort	0.36**	0.36**	0.33*	0.36*	0.38*	0.37*	0.31	0.25	0.20	n.s.
After 1960 cohort	0.71**	0.69**	0.73**	0.72**	0.71**	0.78**	0.72**	0.65*	0.53*	n.s.
Unemployment percentage	-0.07**	-0.07**	-0.07**	-0.05*	-0.05*	-0.05*	-0.14**	-0.14**	-0.13**	~
ln ((age - 16)/10)	-0.07	-0.08	-0.05	0.21	0.20	0.18	-0.43**	-0.47**	-0.36*	*
ln ((65 - age)/10)	0.86**	0.84**	0.86**	1.34**	1.32**	1.30**	0.12	0.07	0.18	~
Occupational status (0-1)	-3.69**	-3.91**	-4.20**	-3.75**	-3.90**	-4.19**	-3.70**	-4.12**	-4.43**	n.s.
Parental occupational status (0-1)	-	1.13**	0.86**	-	1.03**	0.81**	-	1.46**	1.06**	n.s.
Unfinished education, years (0-10)	-	-	0.10**	-	-	0.06~	-	-	0.21**	*
Verbal ability (0-12)	-	-	0.11**	-	-	0.13**	-	-	0.07*	n.s.
No additional training (ref.)										
Additional training paid by employer	-	-	0.31	-	-	0.24	-	-	0.46	n.s.
Personally paid additional training	-	-	0.95**	-	-	0.48	-	-	1.43**	*
Adult education	-	-	0.31*	-	-	0.08	-	-	0.62**	*
Constant	-4.46**	-4.94**	-5.84**	-5.18**	-5.66**	-6.64**	-3.65**	-4.17**	-4.68**	
-2 Log Likelihood	10229.13	10194.53	10121.01	6880.62	6860.60	6822.17	3322.69	3305.27	3258.38	
Degrees of freedom	11	12	21	10	11	20	10	11	20	
Number of events	766	766	766	519	519	519	247	247	247	
Number of person-months	319879	319879	319879	203341	203341	203341	116538	116538	116538	

Source: Family Survey Dutch Population 2000

** $p < 0.01$, * $p < 0.05$, ~ $p < 0.10$

a: These interactions are based on Model 3 for all respondents.

Table 5.6: Downward mobility: the effects of formal education at labor market entry, parental background, and individual resources, discrete-time event-history models

	Total			***Men***			***Women***			Gender interactions with other independent variables[a]
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	
Primary education	0.89**	0.90**	0.71**	0.82**	0.85**	0.67**	1.09**	1.05**	0.82*	n.s.
Lower secondary education	0.71**	0.72**	0.65**	0.65**	0.69**	0.61**	0.85**	0.82**	0.75**	n.s.
Higher secondary education	0.49**	0.49**	0.44**	0.42**	0.43*	0.37*	0.62**	0.61*	0.58*	n.s.
Tertiary education (ref.)										
Women (versus men)	-0.34**	-0.34**	-0.34**	-	-	-	-	-	-	
Before 1940 cohort (ref)										
1940-1949 cohort	0.08	0.08	0.06	0.04	0.03	0.02	0.22	0.24	0.22	n.s.
1950-1959 cohort	0.24	0.24	0.18	0.13	0.13	0.06	0.53	0.55	0.47	n.s.
After 1960 cohort	0.95**	0.95**	0.84**	0.85**	0.84**	0.77**	1.22**	1.23**	1.03**	n.s.
Unemployment percentage	-0.04*	-0.04*	-0.04*	-0.04	-0.04	-0.04	-0.05	-0.05	-0.04	n.s.
ln ((age - 16)/10)	-0.43**	-0.43**	-0.41**	-0.44**	-0.43**	-0.44**	-0.46*	-0.46*	-0.40*	n.s.
ln ((65 - age)/10)	0.76*	0.76*	0.76*	0.91*	0.91*	0.91*	0.31	0.31	0.35	n.s.
Occupational status (0-1)	3.85**	3.84**	3.89**	3.90**	3.84**	3.91**	3.82**	3.89**	3.91**	n.s.
Parental occupational status (0-1)	-	0.04	0.05	-	0.27	0.24	-	-0.44	-0.38	n.s.
Unfinished education, years (0-10)	-	-	0.06~	-	-	0.06	-	-	0.07	n.s.
Verbal ability (0-12)	-	-	-0.05*	-	-	-0.05	-	-	-0.06	n.s.
No additional training (ref.)										
Additional training paid by employer	-	-	0.28	-	-	0.22	-	-	0.48	n.s.
Personally paid additional training	-	-	0.17	-	-	-0.22	-	-	0.59	n.s.
Adult education	-	-	0.06	-	-	-0.02	-	-	0.19	n.s.
Constant	-9.90**	-9.92**	-9.48**	-10.01**	-10.13**	-9.69**	-9.95**	-9.77**	-9.27**	
-2 Log Likelihood	7359.35	7359.31	7350.83	4798.74	4797.85	4793.21	2557.49	2556.26	2550.54	
Degrees of freedom	11	12	21	10	11	20	10	11	20	
Number of events	524	524	524	344	344	344	180	180	180	
Number of person-months	319879	319879	319879	203341	203341	203341	116538	116538	116538	

Source: Family Survey Dutch Population 2000

** $p < 0.01$, * $p < 0.05$, ~ $p < 0.10$

a: These interactions are based on Model 3 for all respondents.

education. The likelihood of experiencing upward moves obviously is smaller for those in higher status occupations, while downward moves from the lower status positions are relatively unlikely.

Model 1 shows that people who enter the labor market with primary education have a 172 percent higher odds of becoming unemployed ($(e^{1.00}-1)*100$), a 72 percent lower odds of experiencing upward mobility ($1-e^{-1.26}*100$), and a 144 percent higher odds of experiencing downward mobility ($(e^{0.89}-1)*100$) respectively, than people who enter the labor market with an academic degree. For respondents who entered the labor market with a lower secondary education, this difference is insignificant with regard to the odds of becoming unemployed. For upward and downward mobility, however, there is respectively an average 66 percent lower odds, and an average 103 percent higher odds compared to tertiary-educated labor market entrants. The educational effects do not differ between men and women. In line with the first hypothesis, people who entered the labor market with a low level of education have significantly less labor market success than people who entered the labor market with better qualifications.

For the empirical test of the selection explanation (third hypothesis), the findings presented in the second model are relevant. A first important observation is that the effect of parental occupational status does not differ between men and women. Therefore, an interpretation of the effects in the 'total-column' is sufficient. A significant and positive direct effect of parental occupational status has been found only in the case of upward mobility. The reduction of 13 and 16 percent in the difference in the odds of upward mobility between primary- and lower secondary-educated people on the one hand, and tertiary-educated on the other, indicates that a small but substantial part of the relationship is spurious. Only this finding is in line with the third hypothesis.

The results with regard to unemployment and downward mobility—in other words, the absence of a direct influence of parental occupational status, and therefore no reduction in the effect of education on these labor market outcomes—do not confirm our expectations with regard to the selection explanation.

Now that the effects of education on labor market success have been corrected for spuriousness, the second hypothesis (the resource explanation) can be evaluated correctly. Model 3 shows the relevant results. In the case of becoming unemployed and upward mobility, the accumulation of resources during the occupational career does explain educational differences for men, but not for women. For men, the effect of labor market entry with primary education decreases by 19 percent in the case of becoming unemployed and upward mobility. With regard to the difference between lower secondary-educated people and tertiary-educated people, the decrease is 21 percent for upward mobility. Since no significant gender interactions have been found for downward mobility, the results indicate that the resources explanation holds partly true for both men and women. The effect of primary education on downward mobility decreases by 21 percent after inclusion of resources. For lower secondary education, this is 10 per cent. By and large, the results are quite in line with the resources explanation.

However, we need to add some notes of caution. For the odds of becoming unemployed, insufficient power probably is an issue, since in total only 238 events are present in the dataset. For men, a substantial interpretation of the educational differences

in unemployment risks has been found, but there are hardly any significant effects of resources, probably as a result of having only 145 events. For Model 3 in Table 4, estimated for women, an additional problem is that women report differently on unemployment than men. This is illustrated by the significant and unexpected positive effect of additional training paid by the employer on the odds of becoming unemployed. Only women who have invested in their occupational careers report having become unemployed after leaving the labor market. Other women are probably more likely to report that they became housewives. Therefore, the results for women with regard to becoming unemployed have to be interpreted with caution.

Looking at Model 3, which other variables independently affect labor market success? First, women have lower odds of experiencing upward and downward mobility than men. This finding indicates that the occupational careers of women are to a greater extent indicated by immobility than the occupational careers of men are. Second, the positive differences between those born before 1940 and the later birth cohorts in labor market success indicate that, in every way, the labor market became more open after 1940. A more open competition does not only result in a higher probability of getting a job with a higher occupational status, but also in a higher probability of (temporarily) leaving the labor market and of significantly dropping in occupational status. Third, for becoming unemployed and upward mobility, the effects of age show that in the beginning of the occupational career, labor market success is quite stable (insignificant effects of the natural logarithm of actual age minus 16, divided by 10). However, in the later life-course (which is indicated by the natural logarithm of 65 minus one's actual age, divided by 10), the chances of becoming unemployed increase. Upward mobility on the other hand becomes less likely later in one's occupational career. Downward mobility is most likely in the beginning of one's occupational career, and more or less exponentially becomes less likely the older one becomes.

The following description concerns the independent influences of the variables included to test the resource and selection explanation. First, people whose parents had jobs with the highest occupational status possible when the respondent was 15, have a 136 percent higher odds of experiencing upward mobility, than respondents whose parents occupied the elementary occupational positions ($(e^{0.86}-1)*100$). Parents seem to be able to help their children during the occupational career if they have access to valuable information, and through their own working life. Since this social background in this case influences labor market success independently from educational attainment, low-educated people from a socially advantageous background have more labor market success than low-educated people from a socially disadvantageous background. Of course, this effect also points at a more indirect way of helping: a high occupational status indicates a higher level of parental cognitive ability and cultural capital. Second, the higher the respondent's cognitive ability, the more likely he or she is to experience upward mobility. Respondents with a maximum score have $((e^{0.11}-1)*100)*12 = 139$ percent higher odds of experiencing an upward shift in occupational status than respondents with a minimum score. Cognitive ability also helps to reduce the odds of downward mobility, but less sharply. If employers see that an employee is talented, they are more willing to provide a corresponding occupational position, even though the employee might lack appropriate qualifications.

Third, to the acquisition of additional forms of human capital is important only for women. For them, unfinished years of formal education, having finished personally paid additional training, and having completed adult education significantly enhances upward mobility. Therefore, for lower educated females who wish to attain a satisfying position in the labor market, acquiring additional human capital is a useful strategy. This cannot be said of the men. Additionally, for both men and women, and for each educational group, unfavorable labor market conditions increase the risk of becoming unemployed, and decreases the risk of experiencing upward mobility. The fact that these factors affect labor market success independent of education, indicates that they can be used to make progress in working life.

5.4.4 Labor market destinations of low-educated people at age 40

Around the age of 40, most people active in working life have more or less attained their final occupational destination. Career moves are most common in the early life-course and job positions are relatively secure in the later life-course. For example, 63 percent of the events of becoming unemployed, 91 percent of the upward shifts, and 90 percent of the downward shifts in occupational status happened before age 40. Actually, events are most likely to occur between age 21 and 30. Therefore, the burning question is: what is the more or less final result of all the dynamic results we have presented. Table 5.7 presents the relevant results. The models presented correspond with Model 3 in Tables 5.4 to 5.6, but since they refer to the situation at age 40, age and occupational status have been eliminated from the equation. The dependent variables are 'being employed' and, if this is the case, the occupational status of that job.

A first major finding is that it is common for men to be employed at age 40, that there is too little variation in the dependent variable to derive significant results. Table 5.4. showed that low-educated men are more likely to become unemployed during the occupational career than high-educated people. Moreover, results obtained from large scale datasets actually did show that Dutch low-educated men are significantly less likely than Dutch higher educated men to be employed between age 45 and 54 (Gesthuizen and De Graaf, 2002). If these results had had more power, they would probably have been replicated. The almost significant effect of primary education exemplifies this. Low-educated women are less likely to be employed than high-educated women. The effects of birth cohort show the historical trend towards increasing female participation in the labor market. Women born between 1950 and 1959 are $(e^{1.29}-1)*100 = 263$ percent more likely to be employed at age 40 than women born before 1940. The positive and significant effect of verbal ability shows that the odds of being employed at age 40 are higher for cognitively able women. The difference in the odds between the most able and least able is $(e^{0.12}-1)*100*12 = 194$ percent. Again, the results show that, for women, it is important to have acquired additional human capital over the life-course. An employee who has finished additional training paid for by the employer, or adult education, increases his or her odds of being employed.

Table 5.7: Employment and occupational status at age 40: the effects of formal education at labor market entry, parental background, and individual resources, logistic and OLS regressions

	Being employed				***Occupational Status***			
	Total	Men	Women	Gender interactions	Total	Men	Women	Gender interactions
Primary education	-1.28**	-1.96~	-1.02*	n.s.	-16.80**	-15.77**	-21.33**	n.s.
Lower secondary education	-1.14**	-1.02	-1.17**	n.s.	-13.88**	-12.44**	-18.24**	n.s.
Higher secondary education	-0.99*	-0.97	-1.08*	n.s.	-11.57**	-10.03**	-14.92**	n.s.
Tertiary education (ref.)								
Women (versus men)	-3.21**	-	-		-0.99	-	-	
Before 1940 cohort (ref)								
1940-1949 cohort	0.41	0.39	0.47	n.s.	-3.32	-0.09	-10.46*	~
1950-1959 cohort	1.02**	-0.10	1.35**	n.s.	-0.92	1.74	-6.65~	*
After 1960 cohort	1.49**	4.70	1.78**	n.s.	-4.93~	-4.17	-7.93~	n.s.
Unemployment percentage	-0.03	-0.18	0.01	n.s.	0.12	-0.60	1.54*	**
Parental occupational status (0-1)	0.47	-0.18	0.69	n.s.	9.42**	9.90**	6.45	n.s.
Unfinished education, years (0-10)	-0.15~	-0.04	-0.23*	n.s.	0.32	0.24	1.30	n.s.
Verbal ability (0-12)	0.09~	0.02	0.11*	n.s.	1.60**	1.48**	1.62**	n.s.
No additional training (ref.)								
Additional training paid by employer	1.24**	1.34~	1.23**	n.s.	1.51	2.67~	-0.79	n.s.
Personally paid additional training	0.42~	0.12	0.51~	n.s.	2.14~	2.12	2.30	~
Adult education	0.77**	1.10~	0.60*	n.s.	2.82*	1.93	4.94*	n.s.
Constant	2.60**	4.74**	-1.22~		43.50**	45.14**	43.14**	
Number of cases	928	483	445		679	457	221	
Explained variance	50.2 %	13.9 %	27.3 %		29.9 %	28.0 %	35.8%	

Source: Family Survey Dutch Population 2000

** $p < 0.01$, * $p < 0.05$, ~ $p < 0.10$

a: These interactions are based on Model 3 for all respondents.

The results for the attained level of occupational status at age 40 show that, independent of all other predictors included in the analysis, low-educated men and women still attain a lower occupational status than higher educated men and women (16,80 and 13,88 points lower on the ISEI scale for primary-educated and lower secondary-educated respondents, respectively). Surprisingly, in times of recession women attain a higher occupational level than during better economic periods. Again it shows that cognitive ability, independent of education, enhances labor market outcomes, for men as well as for women. Moreover, obtaining extra qualifications through adult education results in a higher occupational level for women at age 40. In all, a lack of human capital (additional or otherwise) during the occupational career amounts to a less advantageous employment situation at age 40, for both men and women.

5.4.5 Multivariate results: trends, within-group variation, and interactions

Is there a trend towards growing economic marginalization across birth cohorts and over the life-course for low-educated people, and is it more important for low-educated people to originate from advantageous social backgrounds, to have human capital, and to live in economically advantageous times than for high-educated people? Table 5.8 and Table 5.9 present the results that relate to research questions 3 and 4. The results are extensions of Model 3 in Tables 5.4 through 5.6 for the total population, for men, and for women. For each independent variable, an interaction with education at labor market entry is calculated. They are imputed separately to maintain the highest power possible. In the gender-interaction column, the information shows whether the main effects significantly differ between the sexes. There are some limitations to Table 5.9, one of which is the low number of significant interactions in total. Moreover, the restricted number of unemployment events in the models is a disadvantage. We will briefly discuss the significant interactions that have been found .

Table 5.8 shows that for men and women, the difference between primary-educated and tertiary-educated respondents concerning the risk of becoming unemployed decreases over the life-course. At a young age, tertiary-educated people run the lowest risk of becoming unemployed, while the least qualified run the highest risk. The significant interaction effect of 1.43 (primary education*the natural logarithm of (65-age)/10) indicates that at later ages, the risk for lower educated and high-educated people of becoming unemployed converges more and more. With regard to upward mobility, a divergent trend for lower educated and high-educated women has been found. The odds of experiencing an upward shift in occupational status increases in the early career for tertiary-educated women, while for primary-educated and lower secondary-educated women, the odds of upward mobility are relatively stable. The result is an increasing relative disadvantage for low-educated women. Furthermore, women also have experienced the same relative disadvantage with regard to upward mobility across birth cohorts. The significant interaction effect of -0.06 of primary education with year of birth exemplifies that the difference between the lowest and highest educated women in the odds of experiencing upward mobility has increased over time. In all, low-educated

Table 5.8: Unemployment, upward mobility and downward mobility: interaction effects of formal education at labor market entry with year of birth, age, discrete-time event-history models [a]

	Unemployment				***Upward mobility***				***Downward mobility***			
	Total	Men	Women	Gender interaction	Total	Men	Women	Gender interaction	Total	Men	Women	gender interaction
Primary education	-0.82	-0.58	-1.72	n.s.	2.26	0.90	3.23	n.s.	1.72	1.31	2.14	n.s.
Lower secondary education	-0.45	-0.62	-0.64	n.s.	1.72	-0.08	4.15	n.s.	1.42	1.47	0.86	n.s.
Higher secondary education	-0.90	-0.71	-1.80	n.s.	1.38	-0.40	4.06	n.s.	0.86	0.53	1.62	n.s.
Tertiary education (ref.)												
Year of birth (0 - 54)	0.03	0.04	0.04	*	0.03**	0.03*	0.05*	n.s.	0.02~	0.01	0.06*	n.s.
ln ((age - 16)/10)	-0.73	-0.75	-1.33	n.s.	0.96	0.32	1.99	*	-0.04	-0.10	-0.31	n.s.
ln ((65 - age)/10)	-1.82**	-2.07**	-2.02*	n.s.	2.49~	1.99	2.78	*	1.40	1.61	0.23	n.s.
Primary education * birth year	-0.01	-0.04	0.03		-0.02~	-0.01	-0.06*		0.01	0.02	-0.03	
Lower secondary education * birth year	-0.01	-0.03	-0.01		0.00	0.00	-0.02		0.01	0.01	-0.01	
Higher secondary education * birth year	-0.01	-0.03	-0.01		0.02	0.03~	-0.02		0.02	0.03~	-0.02	
Primary education * ln ((age - 16)/10)	0.89	0.86	1.63		-1.22~	-0.39	-2.37		-0.39	-0.25	-0.27	
Lower secondary education * ln ((age - 16)/10)	0.52	0.66	1.09		-0.93	0.03	-2.42~		-0.34	-0.32	-0.03	
Higher secondary education * ln ((age - 16)/10)	0.61	0.53	1.59		-0.96	-0.21	-1.99		-0.42	-0.54	-0.03	
Primary education * ln ((65 - age)/10)	1.43*	1.75*	1.44		-1.88	-1.26	-1.66		-0.87	-0.87	-0.16	
Lower secondary education * ln ((65 - age)/10)	0.88	1.23	1.11		-1.70	-0.58	-2.95		-0.74	-0.90	0.27	
Higher secondary education * ln ((65 - age)/10)	1.13	1.33	1.97		-1.74	-0.78	-2.61		-0.73	0.82	-0.17	

Source: Family Survey Dutch Population 2000

** $p < 0.01$, * $p < 0.05$, ~ $p < 0.10$

a: Only the main and interaction effects are presented. The complete models include the same independent variables as the regression models (3) presented earlier. The gender interaction column depicts if significantly differing b-coefficients have been found for men and women.

Table 5.9: Unemployment, upward mobility and downward mobility: interaction effects of formal education at labor market entry with parental resources and individual resources, discrete-time event-history models [a]

	Unemployment				***Upward mobility***				***Downward mobility***			
	Total	Men	Women	Gender interaction	Total	Men	Women	Gender interaction	Total	Men	Women	gender interaction
Parental occupational status												
Primary education	0.54	0.25	1.27	n.s.	-1.33**	-1.34**	-1.39~	n.s.	1.55**	1.38*	2.02*	n.s.
Lower secondary education	-0.06	-0.34	0.38	n.s.	-1.20**	-0.99**	-1.64*	n.s.	1.53**	1.31**	2.12**	n.s.
Higher secondary education	-0.31	-0.78	-0.02	n.s.	-1.71**	-1.60**	-1.84*	n.s.	0.92*	0.85	1.11	n.s.
Tertiary education (ref.)												
Parental occupational status (0-1)	-0.83	-0.63	-1.65	n.s.	0.01	0.14	-0.11	n.s.	1.15~	1.16~	1.15	n.s.
Primary education * par.occ.status	0.35	0.64	-0.43		0.48	0.69	-0.07		-1.54~	-1.28	-2.27	
Lower secondary education * par. occ. Status	0.95	1.11	0.94		0.62	0.31	1.13		-1.64*	-1.27	-2.60~	
Higher secondary education * par. occ. Status	1.41	1.72	1.73		2.02**	1.90**	2.18~		-0.78	-0.79	-0.86	
Years of unfinished education												
Primary education	0.57~	0.48	0.88	n.s.	-0.90**	-0.92**	-0.84*	n.s.	1.06**	1.00**	1.29**	n.s.
Lower secondary education	0.23	0.08	0.61	n.s.	-0.78**	-0.73**	-0.84**	n.s.	0.75**	0.75**	0.79*	n.s.
Higher secondary education	0.13	-0.27	0.71	n.s.	-0.61**	-0.59**	-0.52*	n.s.	0.56**	0.45*	0.76**	n.s.
Tertiary education (ref.)												
Years of unfinished education (0-10)	-4.39	-4.01	-3.87	n.s.	0.08	0.04	0.45*	*	0.24**	0.21*	0.37*	n.s.
Primary education * years unfinished	4.43	4.02	3.94		-0.01	0.01	-0.35		-0.31**	-0.28*	-0.46*	
Lower secondary education * years unfinished	4.35	3.92	3.87		0.04	0.01	-0.21		-0.13	-0.18	-0.10	
Higher secondary education * years unfinished	4.50	4.19	3.60		0.05	0.04	-0.18		-0.18*	-0.13	-0.36	
Verbal ability												
Primary education	0.77	-1.27	3.09	n.s.	-0.72	-0.61	-1.11	n.s.	1.76*	2.26*	1.11	n.s.
Lower secondary education	0.32	-1.00	1.25	n.s.	-0.03	0.29	-0.65	n.s.	1.54*	1.96~	1.13	n.s.
Higher secondary education	0.20	-1.93	1.62	n.s.	0.15	0.23	-0.10	n.s.	1.58*	2.60*	0.58	n.s.
Tertiary education (ref.)												
Verbal ability (0-12)	-0.07	-0.21	0.03	n.s.	0.17*	0.20*	0.09	n.s.	0.05	0.10	-0.03	n.s.
Primary education * verbal ability	0.00	0.21	-0.26		-0.01	-0.02	0.01		-0.12	-0.17	-0.03	
Lower secondary education * verbal ability	0.02	0.12	-0.02		-0.08	-0.11	-0.03		-0.09	-0.14	-0.05	
Higher secondary education * verbal ability	0.03	0.23	-0.08		-0.08	-0.08	-0.06		-0.14	-0.24*	0.01	

Table 5.9: Continued

Additional formal training											
Primary education	1.01**	0.92*	1.32*	n.s.	-0.96**	-0.89**	-1.26**	n.s.	0.64**	0.56*	0.86*	n.s.
Lower secondary education	0.60~	0.52	0.82	n.s.	-0.78**	-0.69**	-1.09**	n.s.	0.61**	0.59**	0.70*	n.s.
Higher secondary education	0.65*	0.46	0.95~	n.s.	-0.61**	-0.52**	-0.68**	n.s.	0.26	0.19	0.40	n.s.
Tertiary education (ref.)												
Finished additional formal training (0-1)	1.13*	1.38*	0.73	*	0.29	0.34	0.18	**	-0.41	-0.48	-0.22	n.s.
Primary education * add. formal training	-2.03~	-6.51	-0.41		0.12	-0.23	0.66		0.46	0.93	-3.79	
Lower secondary education * add. formal training	-0.78	-2.04*	0.35		0.15	-0.19	0.78		0.23	0.05	0.45	
Higher secondary education * add. formal training	-1.33~	-6.08	-0.40		0.21	-0.19	0.55		1.09*	1.14*	0.90	
Unemployment percentage												
Primary education	0.65	0.51	1.14	n.s.	-0.46	-0.73*	0.22	n.s.	0.97**	0.79~	1.43*	n.s.
Lower secondary education	0.26	-0.21	1.34	n.s.	-0.35	-0.49	0.07	n.s.	0.90**	0.79*	1.21~	n.s.
Higher secondary education	-0.47	-0.51	-0.13	n.s.	-0.16	-0.47	0.45	n.s.	0.92**	0.67	1.47*	n.s.
Tertiary education (ref.)												
Unemployment percentage lagged	0.03	0.02	0.06	n.s.	-0.00	-0.02	0.06	~	0.01	-0.01	0.05	n.s.
Primary education * unemployment perc.	0.03	0.02	0.03		-0.10*	-0.04	-0.30**		-0.04	-0.02	-0.11	
Lower secondary education * unemployment perc.	0.03	0.08	-0.07		-0.08~	-0.05	-0.18*		-0.04	-0.03	-0.07	
Higher secondary education * unemployment perc.	0.14	0.11	0.15		-0.08	-0.02	-0.19*		-0.09	-0.06	-0.16	

Source: Family Survey Dutch Population 2000

** $p < 0.01$, * $p < 0.05$, ~ $p < 0.10$

a: Only the main and interaction effects are presented. The complete models include the same independent variables as the regression models (3) presented earlier. The gender interaction column depicts if significantly differing b-coefficients have been found for men and women.

women become more and more economically marginalized, across birth cohorts and during the life-course.

The interaction effects with education in Table 5.9 indicate whether the respective independent variable has a stronger or weaker influence for lower educated people than for high-educated people. For lower educated respondents, the occupational status of their parents offers a stronger protection against downward mobility than for tertiary-educated respondents (the interaction effects with parental occupational status are -1.54 and -1.64 for primary-educated and lower secondary-educated people respectively). The same holds true for years of unfinished education. For primary-educated people, it reduces the risk of downward mobility more than it does for tertiary-educated people. By the same token, the effect of having finished additional training on becoming unemployed is more negative for primary-educated people than for tertiary-educated people. In other words, for low-educated people, additional training helps to reduce the risk of becoming unemployed, while for high-educated people this is less the case. The effect of labor market conditions is also different for lower educated and high-educated women. Unfavorable labor market conditions decrease the odds of upward mobility more for lower educated women than for high-educated women. Low-educated women suffer more from economic adversity than high-educated women. It is striking that this does not hold true for men. For them, the effect of labor market conditions is similar in each educational group.

5.5 Conclusions and discussion

In this chapter, we studied the labor market success of low-educated people in the Netherlands. Now, we will provide a summary by systematically answering the five research questions that were posed in the introduction. *To what extent does labor market success differ between low-educated people and high-educated people?* Large and consistent differences were found between the labor market success of low-educated and high-educated people: low-educated men and women are more likely to become unemployed during their occupational career; low-educated men and women are less likely to experience an upward shift, and are more likely to experience a downward shift in occupational status during their occupational career. These findings amount to a disadvantageous employment situation for low-educated people at age 40. Although the results are by no means unexpected, they were reached through the use of longitudinal life-course data, which made it possible to tackle causality problems, and to estimate very precise dynamic multivariate models. A first conclusion is that low-educated people experience large and consistent disadvantages during their occupational career.

To what extent can the difference in labor market success between low-educated people and high-educated people be explained by differences in human capital, and by taking social background into account? The educational difference in upward mobility decreases by some 15 percent if we take into account parental occupational status. No direct effects of social background were found concerning becoming unemployed and downward mobility, so that selection effects cannot occur. Therefore, the labor market

success of low-educated people is determined only to a very small degree by a direct intergenerational transmission of disadvantageous labor market careers.

The dynamic results have shown substantial evidence for the resource explanation: for men, more than 20 percent of the educational difference in the unemployment risk is explained by human capital. For upward mobility, also some 20 percent of the difference between low-educated and high-educated men and women could be attributed to differences in resources. For downward mobility, differences in resources are just as important: again some 20 percent of the difference between the lowest educated and highest educated men and women in the odds of downward mobility is explained by resources. A conclusion we can draw is that low-educated people experience less labor market success than high-educated people because they start their labor market career with less resources, and because they are subsequently less able to produce human capital over their life-course. Since low-educated people are less able to profit from resources like cognitive ability and additional training, they are more vulnerable for unemployment, less likely to experience profitable career moves, and more likely to fall back into less advantageous jobs than high-educated people. These results are quite important because they indicate that low-educated people are not likely to overcome their disadvantageous position through investing in the development of human capital, even though in some cases it would be a sound strategy. This results in the group of low-educated people remaining a vulnerable group throughout the complete occupational career.

Which forms of human capital determine labor market success? First, cognitive ability is important for employment chances as well as for the level of occupational status that is attained. For both men and women, a higher level of cognitive ability is rewarded with better career opportunities in terms of upward mobility. If employers are able to recognize an employee's talent, they will act accordingly and provide jobs that correspond with the employee's level of cognitive ability. The influence found for cognitive ability is independent of someone's educational level. Since both the influence of education and cognitive ability are simultaneously substantial, it shows that employers screen both on qualifications and cognitive development at the same time. Both forms of human capital are used to predict a potential worker's productivity. Both characteristics are more or less of similar importance in predicting someone's occupational status at age 40. The difference in occupational status between primary-educated and tertiary-educated people is almost 17 points on the ISEI-scale, and the difference between the most talented person and the least talented person is 21 points.

Second, in general, it became clear that for women it is very important to have gained more qualifications in addition to a formal educational degree. The number of unfinished educational years as well as additional training during the occupational career (paid by the employer, and adult education) are important for the mobility chances of women. It seems to be the case that employers perceive the risk of hiring a woman, or granting her promotion possibilities to be lower, if she has showed in one way or another that she is willing to seriously invest in her occupational career. Since employers do not experience the same risk for men that results from the 'double perspective', additional training does not serve the same purpose for them. In fact, additional training is, unexpectedly, rather unimportant for the labor market success of men.

To what extent has the difference in labor market success between low-educated people and high-educated people grown during the life-course and across birth cohorts? The group that falls behind the most, during the life-course as well as across birth cohorts, is the group of low-educated women. High-educated women experience an increase in the chance of upward mobility over the life-course, while low-educated women have stable chances. This increasing relative disadvantage with regard to upward mobility for low-educated women also occurs across birth cohorts, indicating that the group that is economically already the most marginalized, is also suffering from an increasing gap in labor market success. For the risk of becoming unemployed, a closing gap between low-educated men and women was unexpectedly found over the life-course. Although low-educated people start off with a large relative disadvantage in this respect, it becomes smaller as the occupational career continues.

Why do some low-educated people have less labor market success than other low-educated people, and to what extent is the effect of individual resources, labor market conditions, and social background stronger for low-educated people than for high-educated people? Four factors contribute to the variation in labor market success within the group of low-educated people. First, upward mobility chances increase if both men and women had parents with high status jobs. Second, low-educated people with a relatively low cognitive ability receive fewer career opportunities in terms of upward mobility than low-educated people with a relatively high cognitive ability. Clearly, talent is rewarded in the labor market. A lower educated person might have a relatively problematic start in the labor market, because their lack of qualifications functions as a negative signal for employers. But, if a position is found, hidden talent seems to be spotted and translated into a better employment situation, irrespective of someone's educational level. Third, low-educated women who did not finish additional training, have a lower chance of experiencing an upward shift in occupational status than low-educated women who did finish additional training. Finally, low-educated people have less labor market success in times of macro-economic disadvantage. By contrast, in economically prosperous times, low-educated people can gain a relatively nice job without much effort (at least compared to economically disadvantageous times). If someone does not function well at school, it is not necessarily a bad decision for that person to go out and look for a better situation in the labor market. If there is work in abundance, a solid place in the labor market can be found without having a qualification. If work is scarce however, it might pay to stay in school a little while longer.

Hout (1988) has shown that for high-educated people parent's resources are relatively unimportant for occupational outcomes. The findings in this chapter show that it is important for low-educated people to have access to other resources for them to get ahead in their working lives. The labor activities of their parents protect low-educated people from becoming unemployed, while for the higher educated this is less the case. They have, after all, their own qualifications to protect them from disadvantageous career moves. Additional human capital in terms of unfinished education and finished additional training also protects low-educated people more than high-educated people from dropping out of the labor market. Finally, unfavorable labor market conditions decrease the chances of upward mobility more strongly for lower-educated women than for high-educated

women. Summing up then, there is some proof in line with the proposition that low-educated people need other resources to compensate for their lack of qualifications, while high-educated people need only their educational qualifications to fare well in working life.

We end this chapter with a short discussion on the question concerning whether low-educated people belong to a group that is clearly separated from the other educational groups with regard to labor market success, or whether they merely score on a continuum. In other words, is there a clear divide between the lower educated people and the high-educated people? Not surprisingly, the answer is yes and no. The low-educated people clearly belong to a distinctive group in terms of unemployment risks. People without any qualifications run a substantial risk of leaving the labor market for a shorter or longer time at any point in their occupational career. By contrast, people with qualifications are rather safe. In terms of upward and downward mobility, low-educated people just form the lowest part of a continuum. The chance of upward mobility linearly decreases the lower the educational level becomes, and the risk of downward mobility subsequently increases in a linear manner if educational level decreases. These findings seem to be in line with the idea of labor market displacement. Because the lowest educated people mostly cannot drop any further with regard to the status of the jobs they occupy, they run the highest risk of getting pushed out of the labor market, while people with any kind of qualification at least have the opportunity to be mobile. The conclusion nevertheless remains that low-educated people suffer from severe economic risk during their life-course.

Chapter six

Social commitment of low-educated people in the Netherlands

Summary

This chapter examines the level of social commitment of the low-educated in the Netherlands, and answers the following research questions: (1) To what extent is there a difference in social commitment between low-educated people and high-educated people, (2) to what extent does this difference become larger across birth cohorts and over the life-course, (3) how can this difference be explained, and (4) to what extent is the effect of social background, human capital, labor market resources, and social network resources on social commitment stronger for low-educated people than for high-educated people? Five indicators of social commitment, which were retrospectively asked for the ages of 20, 30, 40, 50, and 60, are used: electoral participation, political interest, reading newspapers, voluntary work for local organizations, and membership of societal organizations. Multilevel analyses for repeated measurements show that low-educated people are socially considerably less committed than high-educated individuals. Trends towards social marginalization have been observed, particularly with regard to political behavior and attitudes. The difference in social commitment between low-educated people and high-educated people is largely attributable to differences in human capital, labor market success, and partner's resources. If low-educated individuals have parents who were culturally active, or if they are cognitively developed, their less intensive socialization at school is compensated, resulting in an increase in their level of social commitment.

6.1 Introduction

This chapter studies the precariousness of the low-educated in social life by looking at the degree of social commitment that they express through voting at parliamentary elections, political interest, reading newspapers, societal organization membership, and performing voluntary work for local organizations. It is important to focus on social commitment of low-educated people since, in the first place, social commitment is considered to be important for society in general. Studies conducted by Fukuyama (1999) and Putnam (2000) have been of special importance for fueling the debate on the loss of social cohesion. In this public debate, much concern is expressed about the individualization of society and the loss of bonds between individuals and the loss of bonds with civic society. This concern seems justified: less cohesive societies have to cope with more collective problems such as higher criminality rates (Fukuyama, 1999; Kawachi, Kennedy & Wilkinson, 1999; Galea, Karpati & Kennedy, 2002), and a lower general health level (Lochner, Kawachi, Brennan & Buka, 2003).

A lack of social cohesion does not only lead to collective problems; socially less integrated individuals are also more likely to become unhealthy (Berkman and Glass, 2000; Kawachi and Berkman, 2000; Bolin, Lindgren, Lindström and Nystedt, 2003; Lochner, Kawachi, Brennan and Buka, 2003) and to develop criminal activities (Kawachi, Kennedy and Wilkinson, 1999; Galea, Karpati and Kennedy, 2002). Lower educated individuals might belong to a vulnerable group of people that suffer from the negative

consequences of the less intense attachment to society we have mentioned. Although low-educated people might feel strongly attached to their family and the friends within their own social circles, the fact that it has became increasingly less common to be lower educated (Shavit and Blossfeld, 1993; Rijken, 1999), might have resulted in the creation of subcultures in which they do not have contacts, and do not feel affiliated with people from other social strata (Ultee, Arts, and Flap, 1992; Engbersen, Vrooman and Snel, 1997; Gallie, Paugam and Jacobs, 2003). Low-educated people might isolate themselves more than other people (Merton, 1949; Engbersen, 1990) and have, in other words, been increasingly placed outside the 'general society'. To be able to evaluate the extent to which this occurs, an answer to the following research question is needed: *To what extent is there a difference in social commitment between low-educated people and high-educated people in the Netherlands?*

It is also important to study changes in social commitment of low-educated people over time and over the life-course, since this provides insight into whether the low-educated have become increasingly detached from society and therefore have been subject to a process of social marginalization. This chapter applies two perspectives: a cohort and a life-course perspective. According to the cohort perspective, the composition of the group of low-educated people changes as older generations are replaced by new ones, with the result that expressions of social commitment become more exclusive to high-educated people (Knulst, 1992; Kraaykamp, 1996). According to the life-course perspective, low-educated people are less likely than high-educated people to take up social activities, and more likely to abandon them as they get older. Again, we assume social commitment to become more exclusive to higher educated individuals. The second research question is: *To what extent does the difference in social commitment between low-educated people and high-educated people in the Netherlands become larger across birth cohorts and over the life-course?*

The third research question that will be answered in this chapter is *how the difference in social commitment between low-educated people and high-educated people in the Netherlands can be explained.* First, education provides people with the cognitive abilities and knowledge (human capital) that broadens their interest in what happens in society, and in people from other backgrounds and with different characteristics (Hyman and Wright, 1979; Vogt, 1997). Moreover, a long educational career also indicates a long socialization into society's tolerant norms. A lack of qualifications thus indicates a relatively low level of interest in society, which might result in a lower level of social commitment. Second, a lack of qualifications leads to fewer labor market opportunities (Shavit and Müller, 1998), and therefore low-educated people are less likely than high-educated people to have the financial resources that enable certain kinds of social commitment. Third, low-educated people have a high chance of having a partner who is also lower educated (Ultee, Arts, and Flap, 1992). Since a partner's resources influence the way one looks at society, and since people tend to imitate people who are close to them, low-educated people are less likely than higher educated people to be socially committed.

Furthermore, part of the relationship between education and social commitment might be spurious. Compared to high-educated people, the low-educated are more likely

to originate from financially and culturally disadvantaged families (Blau and Duncan, 1967; De Graaf, 1986), and from families in which the parents were less likely to be socially active themselves. If parental resources and behavior directly influence their children's social commitment, then not taking social background into account results in a biased relationship between education and social commitment. This chapter will include parental financial resources, parental cultural resources, and parental behavior with regard to social commitment, to take into account the impact of social background.

Human capital, labor market resources, and partner's resources might also determine which low-educated people are socially more committed than others. Not every low-educated person is unable to accumulate resources over their life-course, and therefore variation in social commitment within the group of low-educated people is likely to exist. But is it more important for low-educated people to accumulate resources than it is for high-educated people? This is quite likely, because high-educated people probably develop social commitment at school. Their scholarly socialization and educational credentials prevent them from exclusion and withdrawal from activities that express social commitment. Therefore, social background and additional resources are expected to be relatively unimportant for them. Since low-educated people have experienced a less intensive scholarly socialization and do not have the advantage of being positively labeled on the basis of having high qualifications, originating from an advantageous social background and gaining additional (human, labor market, and partner's) resources might play an especially important role preventing them from developing a lack of social commitment. The fourth research question reads: *To what extent is the effect of social background, human capital, labor market resources, and partner's resources on social commitment stronger for low-educated people than for high-educated people?* We will use unique retrospective information on social commitment to answer the research questions.

6.2 Theory and hypotheses

6.2.1 Low education and social commitment

What exactly is it at school that makes people socially committed? One important aspect is that through education, pupils gain information, understanding, and skills with regard to other periods in history, other people, and other cultures (Becker, 1964; Blau and Duncan, 1967; Bourdieu, 1979). This knowledge helps to develop a general interest in what happens in and with society. Another aspect is that at school, children are socialized in norms and values that are generally held to be important for society (Hyman and Wright, 1979; Vogt, 1997). Think, for example, of commitment to other people and to society, and taking part in the procedures that regulate democracy. The more knowledge one receives, and the longer one is socialized in a school environment in which the dominant social norms are transmitted to pupils, the more likely it is that a general and broad interest in societal matters will be developed.

Low-educated people have experienced a less intensive process of socialization at school, and have received fewer opportunities to gain knowledge with regard to all sorts of topics. As a result, they are probably less likely to be socially committed than people who attained high levels of education and who went to school for a long period. This influence of school might be quite persistent. It might for instance result in relatively little confidence in society (and its governors), and it could reinforce the creation of socially less committed subcultures and processes of withdrawal from activities that express social commitment (Lewis, 1963; MacLeod, 1987). The first hypothesis is thus: *Low-educated people are socially less committed than high-educated people.*

6.2.2 Changes in social commitment of low-educated people

It might well be the case that the group of low-educated people has become more distinctive with regard to a relative lack of social commitment. This chapter studies these changes from two perspectives; changes across birth cohorts, and changes over the life-course. In both cases, it is hypothesized that the low-educated fall behind compared to the high-educated.

Across birth cohorts, the composition of the group of low-educated people changes as older generations are replaced by new ones (Solga, 2002). In the Netherlands, the size of the group of low-educated people decreased during the period of educational expansion and, in addition, the group on average became less talented, and more homogeneous with regard to cognitive ability (Gesthuizen and Kraaykamp, 2002) over time. Consequently, the group of low-educated people might have become more visible in society through their lack of qualifications and their lower level of cognitive ability. Activities that express social commitment could therefore have become more exclusive to high-educated people (Knulst, 1992; Kraaykamp, 1996). The increasing exceptionality of belonging to the group of low-educated people might have reinforced the process of negative self-selection and withdrawal from social commitment activities, so that the gap between low-educated people and high-educated people has grown across birth cohorts.

During the life-course, low-educated people are also less likely to take up social activities than high-educated people, and more likely to abandon them. Again, social commitment might become more exclusive to higher educated individuals, because processes of selective outflow over the life-course from the low-educated group result in a more negative and homogeneous composition. The more talented low-educated people accumulate more human capital over their life-course than the less talented (De Grip, Heijke and Willems, 1998). Therefore, the group that remains unqualified is a negative selection with regard to human capital. As a result, the people who are unqualified might withdraw from social activities, while those who left the group are more likely to pick them up, which again results in a growing gap between the low-educated and the high-educated, but this time over the life-course. The second hypothesis then reads: *The difference in social commitment between low-educated people and high-educated people becomes larger across birth cohorts and during the life-course.*

6.2.3 Low education and social commitment: social background as a common cause

Social background is likely to be a common cause of educational attainment and social commitment. If social background influences social commitment both directly and indirectly through education, then the difference in social commitment between lower educated people and high-educated people will be overestimated if social background is not taken into account. Which direct and indirect influences of social background can be expected?

First of all, parental financial resources are necessary for expressions of social commitment that cost money, like a subscription to a daily newspaper, or club membership. Therefore, in financially strained families children are restricted, and this socializing influence might still be found when they grow older. Since children who originate from families with few financial resources are more likely to become low-educated than children who have wealthier parents (Blau and Duncan, 1967; De Graaf, 1986), the educational difference in social commitment might be overestimated if parental financial resources are not taken into account.

Secondly, parental cultural resources help children to understand all kinds of information (Bourdieu and Passeron, 1977; De Graaf, De Graaf and Kraaykamp, 2000). Through the way parents spend their leisure time, societal knowledge and interest in societal matters is intergenerationally transmitted. This enhances children's social commitment directly. Compared to high-educated people, low-educated people are more likely to originate from families with a relative lack of cultural resources (De Graaf, 1986; De Graaf et al, 2000). Therefore, the differences in social commitment between low-educated people and high-educated people might be overestimated if parental cultural resources are not taken into account.

Thirdly, parents are important sources of their children's social learning (Bandura, 1977; 1986). If behavior with regard to social commitment of parents causes their children to subconsciously learn values like the importance of voting for society, helping others, or keeping up with societal matters, then parents enhance their children's social commitment directly through their own social behavior. It is also likely that these values help children to do well at school. Values like the importance of and enthusiasm about knowing what goes on in society might also be rewarded at school. Therefore, taking into account parental social commitment might lead to a reduction of the difference in social commitment between low-educated people and high-educated people. The third hypothesis is: *The difference in social commitment between low-educated people and high-educated people is (partly) explained by parental financial resources, parental cultural resources, and parental social commitment.*

6.2.4 Low education and social commitment: a lack of resources

A low education might result in difficulties in obtaining other kinds of resources during the life-course that foster social commitment. First, education fosters the development of cognitive ability (Alwin, 1991; Alwin and McCammon, 1999; Gesthuizen and

Kraaykamp, 2002), which in turn enhances one's general interest in society. The appreciation of, for instance, relatively complex information like electoral procedures and party standpoints increases with cognitive development (Milbraith and Goel, 1977; Van Egmond, De Graaf, and Van der Eijk, 1998). Also, cognitive development leads to a higher satisfaction reading complex newspaper articles (Kraaykamp, 1993). Second, people are judged on the basis of their human capital (Becker, 1964), and if people feel that they are less appreciated because of their lower level of cognitive development, they might break ties with people from other social strata and become socially less committed.

Second, low-educated people on average experience more difficulties in the labor market than high-educated people (Shavit and Müller, 1998). This can result in a situation of financial strain, which makes it difficult to take part in activities that express social commitment (Gallie, 1999; De Vreyer, Layte, Wolbers and Hussain, 2000; Gallie, Paugam and Jacobs, 2003). A transition from employment to unemployment could, for instance, result in canceling a newspaper subscription, or withdrawal from club membership. Research on poverty in the Netherlands shows that people below the poverty line have to abandon, or actually do abandon exactly these kinds of activities (Tazelaar and Sprenger, 1984; Engbersen, Vrooman and Snel, 1997). Summing up then, a disadvantageous labor market career might result in a lower level of social commitment for low-educated people.

Third, low-educated people are less likely to have a partner with many resources, like a high education, than high-educated people (Lin, 1981; 1999; Coleman, 1988; Granovetter, 1988; Boxman et al., 1991; Ultee, Arts, and Flap, 1992). In general, having a partner positively affects various outcomes in daily life (Durkheim, 1897/1951; Ross, Mirowsky and Goldsteen, 1990; Monden, 2003). It is also known that the partner's human capital can be used for the improvement of one's personal situation (Bernasco, 1994; Bernasco, De Graaf and Ultee, 1998). Because low-educated people are more likely to have a lower educated partner (Ultee, Arts and Flap, 1992), and given that the partner's human capital enhances someone's cognitive environment and therefore interest in societal matters, low-educated people are less likely to be socially committed than high-educated people. The fourth hypothesis is: *Low-educated people are socially less committed than high-educated people, because on average they have less cognitive ability, are less successful in the labor market, and have a lower educated partner than high-educated people.* Since social background and resources are expected to independently influence one's level of social commitment, they might also answer the question why some low-educated people are socially more committed than other low-educated people.

6.2.5 Interactions with social background and resources

The low-educated might benefit more from additional resources than high-educated people. Hout (1988) proved this for the impact of parental resources on labor market success. In the previous chapter, this view was extended to more labor market outcomes and with regard to more kinds of additional resources. Here, the argument is extended to social outcomes.

First, for the low-educated it might be more important than for high-educated people to originate from a family with relatively many financial and cultural resources, and where parents were socially committed themselves. This could also be the case for cognitive ability, labor market success, and partner's education. Most high-educated people have learnt the value that social commitment is important through being subjected to an intensive exposure to society's dominant norms of civic virtue and social commitment at school. Furthermore, their educational qualifications make them attractive for social interaction, which excludes them from negative selection and self-selection processes. Consequently, other socializing influences like parents and work might be less important for the development of their social commitment. For low-educated people, socialization through other channels might prove especially effective. Moreover, since they lack an educational qualification, they might need other characteristics to improve their attractiveness in the eyes of other people. The fifth and final hypothesis reads: *The effect of social background, cognitive ability, labor market success, and partner's education on social commitment is stronger for low-educated people than for high-educated people.*

6.3 Data and measurements

6.3.1 Family Survey Dutch Population 2000

We use the Family Survey Dutch Population 2000 (De Graaf, de Graaf, Kraaykamp and Ultee, 2000) to answer the research questions. The survey consists of a computer-assisted face-to-face interview in combination with a self-administered questionnaire. The sample of the non-institutionalized Dutch population between 18 and 70 years old was drawn randomly from the registers of a stratified selection of Dutch municipalities. In total, 1561 respondents were interviewed successfully (response rate: 41 per cent). The moderate response rate is partly a result of the research design. Both partners had to be interviewed for a successful response. The dataset is restricted to respondents from age 20 to 70 and who were not in formal full-time education.

The respondent's social commitment is asked using an innovative design. For each respondent, retrospective information is available at the ages of 20, 30, 40, 50, and 60. Since the respondent's complete occupational and relational history is also asked for, the respondent's resources could be measured at these ages as well. For age 20, there are 1445 valid observations, 1316 for age 30, 922 for age 40, 530 for age 50, and 242 for age 60. This drop in number of cases with increasing age is logical. People who were between the ages of 20 and 29 at the time of interview only have a valid social commitment score for age 20. Respondents between age 30 and 39, score valid on ages 20 and 30. And so on. Note that not many respondents were 60 years or older at the time of interview, and therefore the number of cases at age 60 is lower than for the other ages. After a list-wise omission of missing values, 3369 observations are available for electoral participation, 3357 for political interest, 3362 for reading newspapers, and 3575 for membership of societal organizations and voluntary work for local organizations.

The innovative design regarding the asking of the social commitment questions has several advantages. With the information available at age 20, 30, 40, 50, and 60, it is possible to disentangle cohort from life-course developments and study them simultaneously. Normally they are confounded, but since social commitment of a person is known for several ages, developments from age 20 and age 60 can be corrected birth cohort trends, and developments over a wide span of years of birth can be corrected for life-course influences.

6.3.2 Measuring social commitment

Electoral participation is the first indicator of social commitment. The respondents were asked whether they 'always', 'regularly', 'sometimes' or 'never' went to vote at the parliamentary elections at age 20, 30, 40, 50, and 60 respectively. Two categories are constructed: 0 (regularly, sometimes, and never) and 1 (always). We choose this operationalization because it is assumed that the people who underscore the value that voting is important for society will always try to participate in parliamentary elections. Note that until 1970, voting was compulsory, and that the sanction for not voting was a fine. However, this was never enforced , and therefore non voting also occurred in times of compulsory voting. Nevertheless, the percentage of people who always vote should be higher in the earliest birth cohorts. The age at which people were allowed to vote has also been subject to changes. In 1946 it was lowered to 23 (from 25), in 1963 to 21, and in 1972 to 18. Therefore, a few respondents might have said they went to vote at age 20, even though they did not have the right to vote. This only counts for the years before 1963 however, and since this problem only emerges for voting at age 20, it is not considered to be harmful. A dichotomization of all indicators of social commitment is chosen so that interpretations in terms of percentages becomes possible. *Political interest*, the second indicator of social commitment, is constructed using the question "at the respective ages, would you say that you were 'very interested', 'interested', 'neither interested nor uninterested', 'uninterested', or 'very uninterested' in politics". The 'very interested' and 'interested' categories indicate political interest, while the other categories constitute the zero category. The third indicator of social commitment is *reading newspapers*. The respondents were asked to answer the question whether they 'always', 'regularly'' 'sometimes', or 'never' read a daily newspaper at the respective ages. 'Always' and 'regularly' are combined to indicate a high level of social commitment, while 'sometimes' and 'never' are used for the reference category. For *membership of societal organizations*, the fourth indicator of social commitment, it was assessed whether the respondent was a member of a political party, a societal organization (like Amnesty International), or an environmental organization (like Greenpeace) at the respective ages. If the respondent is a member of one or more of these kinds organizations, he or she is believed to be socially committed. For the fifth indicator of social commitment, *voluntary work for local organizations*, the respondent was asked if he or she had done voluntary work at the respective ages for one or more organizations that are active at a more local level. These organizations include music clubs, youth clubs, school, sports clubs, neighborhood

organizations, hobby clubs, clubs that safeguard consumer interests, organizations for elderly people, health clubs, student organizations, women's organizations, and service clubs.

6.3.3 Measuring education, parental background, resources, and control variables

Own education consists of four categories: 'primary education' (Dutch: basisschool), 'lower secondary education' (vbo and mavo), 'higher secondary education' (havo, vwo, and mbo), and 'tertiary education' (hbo and university). Note that this variable slightly varies over the individual's life-course (i.e. at the ages 20, 30, 40, 50, and 60).

The first indicator of parental resources is *parental financial resources*. Like all other retrospective measures of family background, the questions refer to the situation when the respondent was 15 years of age. Parental financial resources are indicated by a scale constructed from the following 12 items: possession of a car, garage, camera, freezer, dishwasher, VCR, central heating, antique furniture, a television set, whether the family went on holiday, holidays to faraway destinations, and a cleaning lady (α=0.80). Since some of these assets were not available to older birth cohorts (central heating, VCR) or are not very relevant for the economic well-being of younger cohorts (car, television), the measurement has been standardized within four birth cohorts (1940 and older, 1940-1949, 1950-1959, 1960 and younger). Proportional rank scores are calculated to simplify the interpretation. Since now the scale values range between zero and one, the regression coefficient expresses the difference between respondents with a minimum and a maximum amount of parental financial resources.

Parental cultural resources are measured using six items that express the parents' behavior in terms of going out. These are the visits to modern or old buildings, classical concerts, opera or ballet, historical and art museums, and theatre plays (α=0.82). The procedure used for parental financial resources is also applied to obtain regression coefficients that are easily interpretable.

For the third indicator of parental background, *parental social commitment*, different measurements for the forms of social integration already described are used, to approach as close as possible the measurement of the dependent variables. This way, direct imitation of parental behavior is measured. For direct imitation of electoral participation and a direct transmission of political interest, *parent's political party membership* is used. A score of 'one' indicates that one or both parents were members of a political party when the respondent was 15 years old. There is no measurement available of newspaper reading of parents. Therefore, *watching information-based programs on TV* indicates imitation with regard to newspaper reading (0=no, 1=yes, 2=no television at age 15). If children observe their parents' interest in societal matters, through reading newspapers or watching information-based television programs, they will become more interested in societal matters themselves, which is expressed in behaviors like reading the newspaper. For direct transmission of membership of societal organizations, or doing voluntary work for local associations, the question concerning whether parents performed *voluntary work for voluntary associations* when the respondent was 15 indicates parental social commitment (0=no, 1=yes).

Several variables indicate additional resources at the respective ages of 20, 30, 40, 50, and 60. *Verbal ability* indicates additional human capital. For 12 words, the correct synonym had to be picked out from 5 alternatives. The number of correct answers is calculated and divided by 12 to create a linear scale that ranges from zero to one. This is the only individual variable that could not be included in a time-varying manner. Second, to indicate labor market success at the respective ages, whether (0) or not (1) the respondent is *employed* is included. Note that the 'one' category also includes disabled people and homemakers. The other indicator of labor market success is the respondent's *occupational status*, indicated by the ISEI scale as developed by Ganzeboom, De Graaf and Treiman (1992). Missing cases are replaced using a two-stage procedure. The average overall occupational statuses of a person that are available for the ages, is imputed if occupational status cannot be constructed for one age. The small number of remaining missing cases is replaced by an estimated occupational status score on the basis of respondent's education, gender, and age. Third, *partner's level of education* has four categories: 'a primary-educated partner' (basisschool), 'a lower secondary-educated partner' (vbo, and mavo), 'a partner with a higher secondary education' (havo, vwo, and mbo), and 'a tertiary-educated partner' (hbo and university). If the respondent did not have a partner, the missing value is imputed with the average level of partner's education for the respondent's educational group.

There are also various control variables. First, *age* includes five dummies: 'age 20', 'age 30', 'age 40', 'age 50', and 'age 60'. These will be used to estimate the life-course changes. Second, *sex* (1=female, 0=male) is included. Dependent on the stage of life—for instance the presence of young children—women might be more restricted to be socially committed than men. Third, *year of birth* is incorporated having a range from 0 (born in 1925) to 54 (born in 1979), or categorical in four categories (1=born before 1940, 2=born between 1940 and 1949, 3=born between 1950 and 1959, and 4=born after 1960). Using birth cohorts, trends in the educational difference in social commitment are estimated. Fourth, since religious people prove to be more activein performing voluntary work than people who are not religious (Bekkers and De Graaf, 2002), whether or not the respondent was a *member of a religious affiliation* (0=no, 1=yes) is accounted for. Whether or not the respondent had a *partner* (0=yes, 1=no) is the fifth control variable and finally, the presence of *children in the household* is also accounted for in a time-varying manner. The categories are 'no children', 'at least one child from age 0 to 12', 'youngest child from age 13 to 20', and 'youngest child over age 20'. There are several interesting reasons for including this variable. On the one hand, having children (especially small children) imposes a time-constraint, which might result in a lower level of social commitment. On the other hand, through children's activities (for instance, school and hobbies), parents meet other parents, and might become socially more committed through these forms of social contact.

6.4 Results

6.4.1 Descriptive analyses: social commitment of low-educated people and cohort and life-course trends

Table 6.1 shows that with regard to all five indicators, low-educated people are socially less committed than respondents with a higher level of education. For electoral participation, the percentage-point difference between the highest and lowest educated group is 23.0 (85.6-62.6). For political interest, reading newspapers, societal organization membership, and voluntary work for local organizations, this is 24.7, 16.1, 39.9, and 16.0 respectively. These bivariate educational differences are consistent, and rather large in the case of reading newspapers and voluntary work. These results corroborate the expectations expressed in the first hypothesis.

Table 6.1: Percentage that is socially committed for different educational groups

	Electoral participation	*Political interest*	*Reading newspapers*	*Membership societal org.*	*Voluntary work loc. org.*
Primary school	62.6 %	15.0 %	75.8 %	10.1 %	9.9 %
Lower secondary education	69.5 %	17.4 %	82.2 %	23.6 %	16.4 %
Higher secondary education	72.0 %	22.3 %	84.1 %	29.9 %	20.9 %
Tertiary education	85.6 %	39.7 %	91.9 %	50.0 %	25.9 %

Source: Family Survey Dutch Population 2000

Figure 6.1 shows the simultaneous interactions between birth cohort and age on the one hand, and social commitment on the other. Table A1.1 in Appendix 1 provides the coefficients that accompany these trend figures. Figure 6.1 first of all shows that the lowest educated people score lowest on all indicators of social commitment in almost each birth cohort and at almost every age. The birth cohort changes for electoral participation show that there is a general trend toward less electoral participation. The group of low-educated people shows the steepest drop in electoral participation. The regression results in Table A1.1 indicate that, taking into account life-course developments, low-educated people significantly diverge from high-educated people across birth cohorts with regard to electoral participation. There are no significant changes over the life-course. The formal test using regression techniques underlines this conclusion. The general level of political interest is stable across birth cohorts, but increases with age. For primary-educated respondents, social commitment decreases across birth cohorts, as well as over the life-course. The primary-educated significantly diverge across birth cohorts from all other educational groups, especially after 1950. The life-course divergence sets in after age 40. The number of people that regularly read the newspaper seems to have decreased over time, while, newspaper reading increases especially between age 20 and 30. Figure 6.1 again shows significant birth cohort and life-course changes in educational differences. A divergence appears between primary-educated respondents and higher secondary-educated respondents until 1950. After 1950, Figure 6.1 shows a significant convergence between the lowest educated and highest educated respondents. Between age 20 and 40, the lower secondary-educated read the newspaper increasingly more often compared to tertiary-educated respondents. No further life-course trends have been found. The level of societal club membership remained stable across birth cohorts, while as one grows older,

the likelihood of societal organization membership increases. Regression results do not show any trends towards increasing differences in social commitment, either across birth cohorts, or over the life-course. The same holds true for doing voluntary work for local organizations; i.e. it is quite stable across birth cohorts, it increases with age, and there are no significant changes in the difference in social commitment between the low-educated and the high-educated. In all, several findings are in line with the second hypothesis.

Figure 6.1: Social commitment for educational groups across birth cohorts and over the life-course, in percentages

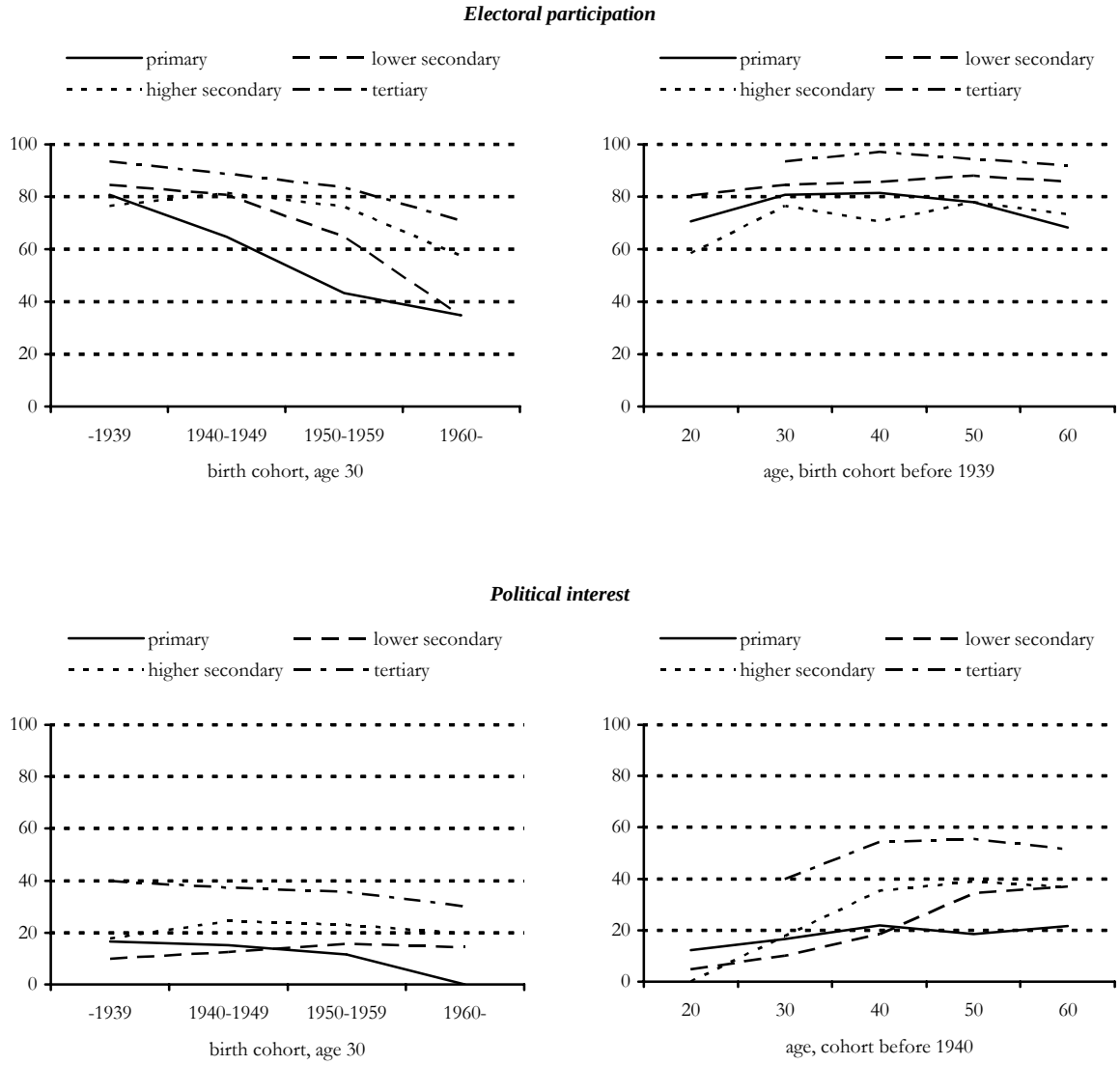
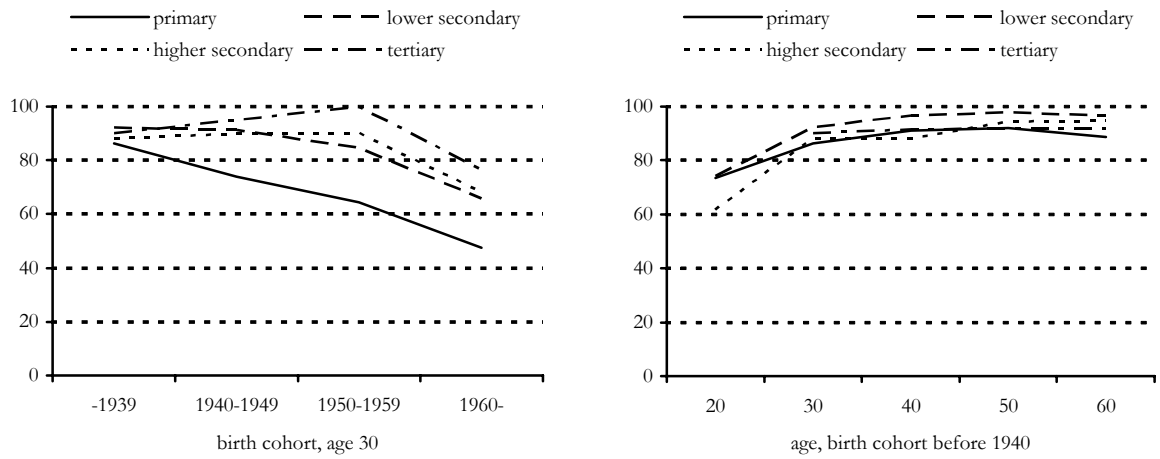


Figure 6.1: Continued

Reading newspapers



Membership of societal organizations

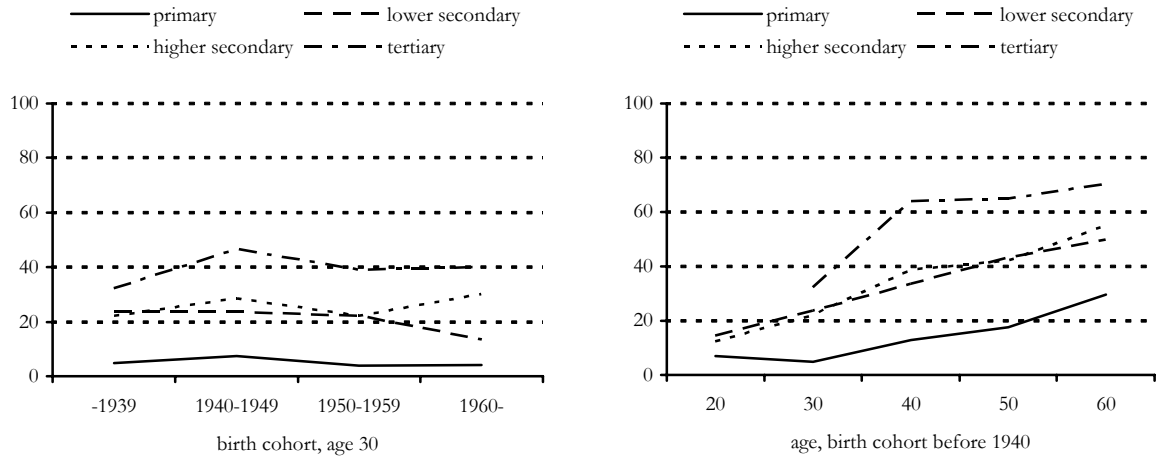
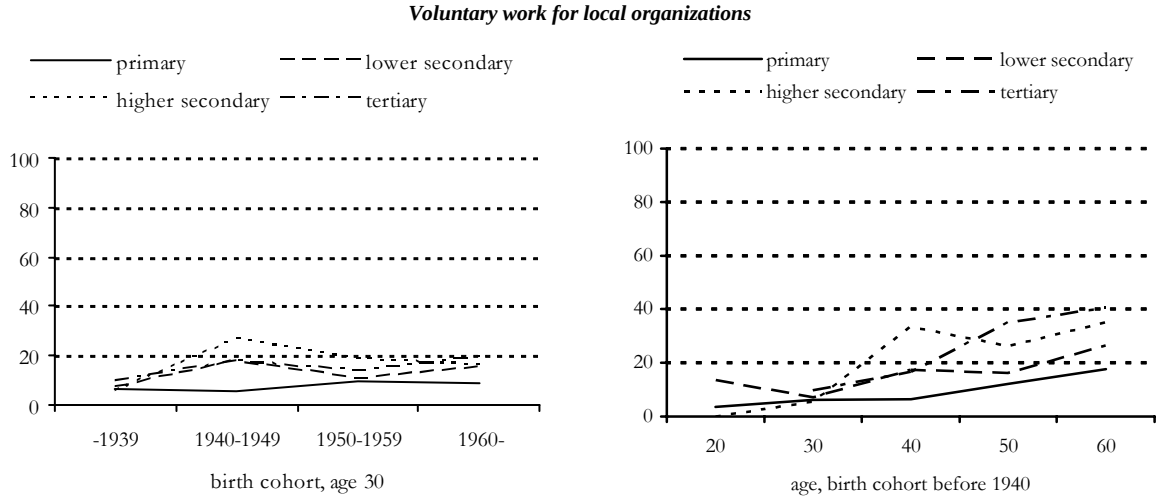


Figure 6.1: Continued



Source: Family Survey Dutch Population 2000

6.4.2 Multivariate analyses: explaining low-educated people's low level of social commitment

Table 6.2 presents three models for each indicator of social commitment. Multi-level random-effect logit models are used, in which the dependent variables are measured in dichotomies, where the level-one unit refers to repeated measurements, and the level-two unit to individuals (Snijders and Bosker, 1999). These models provide unbiased estimators for clustered data. Model 1 regresses social commitment on education, age, year of birth, gender, being a member of a religious denomination, having a partner, and having children. Models 2 and 3 respectively include social background and resources. To facilitate reading the information-rich Table 2, Table 3 shows the actual reductions in the educational differences (primary school versus tertiary education, and lower secondary versus tertiary education) after inclusion of parental background and resources.

In line with the first hypothesis, Model 1 shows that respondents with primary school and lower secondary education are less likely to be socially committed than tertiary-educated respondents. Compared to the odds of the tertiary-educated, the odds for always voting in parliamentary elections is 99 percent lower for primary-educated respondents, and 94 percent lower for lower secondary-educated respondents ($1-e^{-4.21}*100$ and $1-e^{-2.81}*100$). For political interest, the respective odds are 84 and 88 percent lower, for regular newspaper reading 97 and 83, for membership of societal organizations 99 and 91, and for performing voluntary work for local organizations 68 and 41.

The results from Model 2 show that, in general, the relationship between education and social commitment is not overestimated as a result of social background; including parental financial resources, parental cultural resources, and parental social commitment typically does not lead to a reduction in the difference in social commitment between lower educated respondents and tertiary-educated respondents (see Table 6.3 for an

Table 6.2: Five indicators of social commitment; the effects of education, individual resources, and selection on parental resources, random effect logistic models.

	Electoral participation			***Political interest***			***Reading newspapers***			***Membership societal org.***			***Voluntary work local org.***		
	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
Primary school	-4.19**	-3.92**	-3.27**	-1.81**	-1.92**	-0.62	-3.38**	-3.38**	-1.76**	-4.67**	-4.25**	-2.25**	-1.20**	-0.84*	-0.26
Lower secondary education	-2.79**	-2.63**	-1.38*	-2.13**	-1.40**	-1.03*	-1.81**	-1.62**	-0.44	-2.38**	-2.14**	-1.34**	-0.53*	-0.31	0.04
Higher secondary education	-1.32**	-1.22**	-0.76	-0.54	-0.72	-0.04	-0.52	-0.47	0.53	-0.97*	-0.93*	-0.40	0.06	0.18	0.35
Tertiary education (ref)															
Age 20 (ref)															
Age 30	0.10	0.26	0.12	2.56**	2.52**	2.77**	2.16**	2.15**	2.14**	2.31**	2.26**	2.14**	0.14	0.17	0.13
Age 40	0.57	0.74~	0.64	3.75**	3.71**	4.02**	3.45**	3.42**	3.25**	3.93**	3.89**	3.74**	1.31**	1.33**	1.31**
Age 50	0.37	0.85	0.72	4.45**	4.37*	4.75**	3.15**	3.05**	3.03**	4.76**	4.71**	4.53**	1.47**	1.47**	1.48**
Age 60	-0.66	0.08	-0.13	4.59**	4.58**	5.02**	3.06**	2.95**	3.23**	6.01**	5.95**	5.86**	1.93**	1.89**	1.93**
Year of birth (0-54)	-0.15**	-0.19**	-0.19**	0.00	-0.01	-0.00	-0.08**	-0.10**	-0.11**	-0.02	-0.02	0.01	0.03**	0.03**	0.04**
Female (0/1)	-0.41	-0.42	0.02	-2.56**	-2.01**	-1.75**	-0.21	0.11	0.09	-0.26	-0.25	-0.41	-0.90**	-0.95**	-0.93**
Religious (0/1)	0.42	0.17	0.65*	0.12	0.37	0.94**	0.22	0.32	0.04	-038	-0.42	-0.23	0.07	0.03	0.08
No partner (0/1)	-0.60~	-0.60~	-0.84*	0.40	0.37	0.25	0.90*	0.88*	0.95*	-0.02	-0.03	-0.16	-0.38	-032	0.08
No children (ref)															
Child age 0-12	-0.03	-0.24	-0.14	-0.56~	-0.57	-0.61	0.56~	0.70*	0.90**	-0.36	-0.35	-0.05	0.28	0.32	0.30
Child age 13-20	0.04	-0.39	-0.25	-0.17	-0.14	-0.25	0.87	1.05~	1.25*	-0.21	-0.25	0.10	0.26	0.32	0.28
Youngest child over 20	0.14	-0.64	-0.46	0.23	0.23	0.14	0.77	0.97	1.09	-0.39	-0.37	0.04	0.64	0.74~	0.70
Parental financial resources (0-1)		0.76	0.16		0.32	0.94		1.11~	0.70		0.34	-0.50		0.37	0.40
Parental cultural resources (0-1)		3.45**	0.93		3.37**	2.19**		0.61	0.62		1.18~	1.34*		0.22	-0.00
Parental behavior/imitation[a]		0.82*	0.33		1.02*	0.31		0.97~	1.04*		0.54	0.29		0.83**	0.82**
Verbal ability (0-12)			0.46**			0.45**			0.12			0.44**			0.14**
Not employed (0/1)			0.05			-0.15			-0.52*			-0.08			0.09
Occupational status (0-1)			0.89			0.04			1.86*			1.08			1.07*
Primary-educated partner			-1.15~			0.01			-0.66			-1.76**			-0.09
Lower secondary-educated partner			-0.81			-0.41			-1.75**			-0.56			0.56~
Higher secondary-educated partner			-0.63			0.27			-0.87*			-0.25			0.21
Tertiary-educated partner (ref)															
Constant	8.50**	7.58**	5.37**	-4.10**	-6.71**	-11.00**	4.93**	3.92**	2.64**	-2.98**	-3.94**	-8.80**	-3.61**	-4.37**	-6.64**
-2 Log Likelihood	1287.12	1274.43	1257.27	1191.22	1177.89	1167.32	1112.92	1106.95	1090.59	1382.46	1376.93	1348.60	1358.17	1348.18	1337.81
Degrees of freedom	14	17	23	14	17	23	14	18	24	14	17	23	14	17	23
Number of individuals	1230	1230	1230	1223	1223	1223	1222	1222	1222	1262	1262	1262	1262	1262	1262
Number of observations	3369	3369	3369	3357	3357	3357	3362	3362	3362	3575	3575	3575	3575	3575	3575

Source: Family Survey Dutch Population 2000

** $p < 0.01$; * $p < 0.05$; ~ $p < 0.10$

a: Parental party membership applies to electoral participation and political interest, watching information-based programs on TV to reading newspapers, and parental voluntary work to societal organization membership and voluntary work for local organizations.

overview). Only two exceptions are in line with the third hypothesis. First, including social background leads to a 34 percent reduction in the difference in political interest between lower secondary-educated people and tertiary-educated people. Second, the difference in doing voluntary work for local organizations between the lower educated and the tertiary-educated will also be overestimated if social background is not taken into account. The reductions are 26 and 40 percent for primary-educated and lower secondary-educated respondents, respectively.

After inclusion of human capital, labor market success, and partner's education (Model 3), large reductions in social commitment differences between educational groups are found. Only one reduction is below 25 percent. All other reductions are substantial. Hypothesis four is therefore amply confirmed. Low-educated people are less likely to be socially committed than high-educated people because the low-educated have less additional human capital, are less successful in the labor market, and have lower educated partners.

Table 6.3: Percentage of reduction in the difference in social integration between primary and tertiary education, and between lower secondary education and tertiary education.

	Electoral participation		***Political interest***		***Reading newspapers***		***Membership of societal org.***		***Voluntary work for local org.***	
	Primary	*Low. sec.*	*Primary*	*Low. sec.*	*Primary*	*Low. sec.*	*Primary*	*Low. sec.*	*Primary*	*Low. sec.*
M2[a] of Table 2 (complete)	– 6.8	– 6.4	5.2	**– 34.3**	– 0.0	– 7.9	– 9.2	– 9.7	**– 25.7**	**– 40.0**
M1 plus parental financial resources	– 5.7	– 5.7	***– 42.3***	***– 12.7***	0.2	– 7.3	– 2.6	– 2.1	– 3.5	***– 15.3***
M1 plus parental cultural resources	– 9.0	– 0.3	– 5.4	***– 23.0***	– 4.4	***– 10.8***	– 4.7	***– 12.2***	***– 12.4***	***– 19.2***
M1 plus parental behavior/imitation	1.4	– 3.6	***– 11.0***	– 3.8	3.4	– 0.5	– 3.8	– 3.0	***– 23.0***	***– 30.7***
M3 of Table 2 (complete)	**– 16.6**	**– 47.5**	**– 66.7**	**– 26.4**	**– 47.9**	**– 72.8**	**– 47.1**	**– 37.4**	**– 69.0**	–[b]
M2 plus human capital	***– 33.9***	***– 67.3***	***– 55.7***	***– 28.6***	***– 25.4***	***– 27.1***	***– 30.4***	***– 14.0***	***– 46.4***	–
M2 plus labor market success	***– 31.6***	***– 28.9***	***– 19.3***	***– 16.4***	***– 23.9***	***– 42.0***	***– 13.9***	***– 26.2***	***– 34.5***	–
M2 plus partner's education	***– 16.8***	***– 10.6***	***– 26.6***	***– 37.0***	***– 22.4***	***– 36.4***	***– 13.6***	***– 15.4***	– 8.3	–

Source: Family Survey Dutch Population 2000.
Bold: A reduction larger than 10 per cent in the educational difference for the complete set of factors (parental background and individual resources.
Bold and italic: a reduction larger than 10 per cent in the educational difference for the one single factor.
a: M1, M2, and M3 refer to the models presented in Table 6.2.
b: The difference in performing voluntary work for local organizations between people with a lower secondary education and a tertiary education was not significant (see Table 6.2).

Table 6.3 shows that human capital is especially important for explaining the differences in electoral participation and political interest between lower and higher education. In four of the five cases, verbal ability significantly increases social commitment. Verbal ability is insignificant only for newspaper reading, thereby contradicting expectations. For electoral participation and political interest, human capital also leads to a large reduction in the educational differences. Because low-educated people on average have less human capital than high-educated people, they have developed less interest in societal matters compared to high-educated people, and therefore they often vote relatively less frequently and are relatively less interested in politics. For explaining the difference between lower secondary-educated people and tertiary-educated people in newspaper reading, labor market success and partner's education are more important. It may be that working people and people with high status jobs are in a better position to afford a subscription to a daily

newspaper subscription. Another explanation could be that interaction with colleagues enhances interest in societal matters. The reduction in the difference in societal organization membership between primary-educated people and tertiary-educated people is largely attributable to differences in human (cognitive) resources, while the difference between lower secondary-educated people and tertiary-educated people largely exists because of differences in labor market success. For performing voluntary work for local organizations, both human capital and labor market success provide an important part of the explanation.

Some interesting results have been found with regard to the control variables. Women are less interested in politics than men, and they perform voluntary work for local organizations less often. Religious people vote more often than non-religious people, and they are more interested in politics. People who do not have a partner vote less often, but read the newspaper more often than people who do have a partner. Finally, having children of a certain age seems of little importance for predicting social commitment.

6.4.3 Multivariate findings: interactions between social background and resources

Table 6.4 presents extensions to the models presented in Table 6.2. interactions have been added to Model 3 between the dummies of educational attainment and social background, and between education and resources. To maintain the most powerful models possible, these are included separately. For each indicator of social commitment and each educational group, the total effect is presented (i.e. the interaction effect added to the main effect of social background or resources).

Parental material resources proved to be unimportant for the explanation of social commitment. It also shows that it is equally unimportant for all educational categories. The results for parental cultural resources are in line with the fifth hypothesis: for lower secondary-educated respondents, its effect on political interest and voluntary work for local organizations is stronger than for tertiary-educated people. Contrary to expectations, parental social commitment has a weaker effect on children's social commitment for primary-educated people than for tertiary-educated people. Furthermore, the effect of verbal ability on electoral participation is indeed stronger for lower secondary-educated people than for tertiary-educated people. The results for labor market success were unexpected. The effect on newspaper reading of not working is stronger for lower secondary-educated people than for tertiary-educated people, and the effect of occupational status on political interest is weaker for primary-educated people than for tertiary-educated people. And finally, we expected the negative influence of having a low-educated partner to be stronger for low-educated people than for high-educated people. However, this is not the case, since for voting behavior, having a primary-educated partner is significantly more negative for tertiary-educated respondents than for lower secondary-educated respondents. For political interest however, some confirmation has been found: having a lower secondary-educated partner reduces the level of political interest more for lower secondary-educated respondents than for tertiary-educated respondents.

Table 6.4: Five indicators of social commitment; interactions between educational categories (tertiary education is used as reference category), individual resources, and selection on parental resources, random effect logistic models.[a]

	Electoral participation				***Political interest***				***Reading newspapers***				***Membership of societal org.***				***Voluntary work for local org.***			
	Primary	*Lower sec*	*Higher sec*	*Tertiary (ref)*	*Primary*	*Lower sec*	*Higher sec*	*Tertiary (ref)*	*Primary*	*Lower sec*	*Higher sec*	*Tertiary (ref)*	*Primary*	*Lower sec*	*Higher sec*	*Tertiary (ref)*	*Primary*	*Lower sec*	*Higher sec*	*Tertiary (ref)*
Parental financial resources (0-1)	0.08	1.58	-0.68~	1.92	1.67	1.30	-3.02*	0.31	0.55	0.49	0.96	1.48	-2.74	-1.19	0.94	0.20	-0.21	1.04~	0.52	-0.46
Parental cultural resources (0-1)	-1.50	1.24	2.56	1.45	3.26	4.96*	0.13	0.97	0.68	0.97	0.98	0.34	1.93	1.25	1.33	1.14	0.30	0.65*	0.16	-1.40
Parental behavior/imitation[b]	0.38	0.71	0.25	-0.77	0.70	0.51	-0.04	-0.56	1.40	2.24	2.74	3.10	0.45	0.09	-0.26~	1.14	0.34	0.85	1.47~	0.43
Verbal ability (0-12)	0.32	0.64*	0.34	0.19	0.58	0.58	0.20	0.19	0.11	0.07	0.16	0.40	0.46	0.52	0.32	0.33	0.19	0.08	0.29	0.14
Not employed (0/1)	-0.30	0.43~	-0.10	-1.17	-0.18	-0.01	-0.03	-0.64	-0.63~	0.05*	-1.76	-2.48	0.13	-0.23	0.87	-0.83	0.14	0.02	0.46	-0.36
Occupational status (0-1)	-0.57	1.78	0.38	-0.01	-6.07**	1.96	0.85	0.43	3.62	2.20	0.19	0.76	-0.67	2.46	1.01	-0.29	1.32	-0.07	2.58	1.91
Primary-educated partner	-1.73	-0.17*	-2.25	-3.80	1.26	-0.25	-1.51	-0.01	1.85	-1.26	-1.11	0.70	0.06	-2.74	-0.94	-1.81	0.51	0.42	-1.53	0.12
Lower secondary- educated partner	-1.31	-0.05	0.64	-0.86	1.33	-2.11**	0.13	0.89	0.56~	-2.20	-1.76	-2.95	1.71	-1.71	0.40	-0.28	1.26	0.71	0.86	0.42
Higher secondary- educated partner	-0.51	0.06~	0.25*	-2.21	3.28	-0.92~	0.49	0.64	2.27	-1.74	-0.36	-0.79	1.85*	-1.04	0.54	-1.16	1.26	0.31	0.57	-0.27
Tertiary-educated partner (ref)																				

Source: Family Survey Dutch Population 2000

** P < 0.01; * P < 0.05; ~ P < 0.10

a: The interaction models are based on Model 3 from Table 6.2. Note that for education, the reference category is tertiary education.

b: a: Parental party membership applies to electoral participation and political interest, watching information-based programs on TV to reading newspapers, and parental voluntary work to societal organization membership and voluntary work for local organizations.

6.5 Conclusions and discussion

This chapter concludes with a discussion on social commitment in the Netherlands in general, and a summary of the answers to the research questions. One of the concerns that has been expressed in the public debate in recent years is that people are underscoring less and less civic virtues and are neglecting social activities that are considered to be important for the cohesion of society. With regard to the five indicators of social commitment, a decrease across birth cohorts was found only for electoral participation and newspaper reading. For other indicators, such as political interest and membership of societal organizations, social commitment seems to be stable over time, and for voluntary work it seems even that social commitment has increased. And there is another positive story to add: for all indicators with the exception of electoral participation, people become socially more committed as they get older. However, certain groups, like the group of the low-educated, are socially more vulnerable than other social groups, and the aim of this chapter was to study the social situation of low-educated people in the Netherlands.

To what extent is there a difference in social commitment between low-educated people and high-educated people in the Netherlands? The results show large and consistent differences. Low-educated people participate less often in elections, are less interested in politics, read the newspaper less frequently, are members of societal organizations less often, and perform voluntary work for local organization less often than high-educated people. These differences are consistent across birth cohorts and age groups. The implications of this negative situation might be serious. Detachment from 'general society', not underscoring civic virtues, and the possible formation of subcultures of people from lower social strata in which social commitment is not necessarily appreciated, can have negative individual and social consequences.

To what extent does the difference in social commitment between low- and high-educated people in the Netherlands become larger over birth cohorts and over the life-course? The answer to this second research question gives insight into the extent to which processes towards social isolation have taken place in the Netherlands. One conclusion is that low-educated people have become a more distinct group that scores relatively low on social commitment with regard to political behavior and attitudes, and with regard to their interest in societal matters. The drop in electoral participation and the growing gap with high-educated groups in electoral participation across birth cohorts, might indicate a detachment from politics, as does the fact that, compared with high-educated people, the low-educated have become less and less interested in politics across birth cohorts and over the life-course. Another finding also indicates an increasingly disadvantageous social situation for the low-educated. For them, reading newspapers became less common across birth cohorts compared with the other educational groups. This might indicate a loss of interest in what is going on in society. It seems that a loss of social commitment has put low-educated people in the Netherlands in an increasingly precarious situation. It is unrealistic to speak of a clearly socially marginalized group since many low-educated people actually are socially committed, but some processes that indicate marginalization have been found, and these deserve serious attention.

How can the difference in social commitment between low-educated people and high-educated people in the Netherlands be explained? Or, in other words, what is it that makes low-educated people vulnerable to a lack of social commitment. One argument was that the low-educated are more likely than high-educated people to have grown up in families with few financial and cultural resources, and with parents who were socially uncommitted themselves. The most important conclusion is that, by and large, originating from a disadvantageous social background does not explain the educational difference in social commitment, or a part of it. The difference between lower educated people and high-educated people was substantially overestimated when social background was not taken into account only for political interest and performing voluntary work for local organizations,. In these cases, parental behavior and the situation in the family of origin can prevent children from becoming socially less committed in later life. Particularly cultural activities of the parents and their own expressions of social commitment seem to be important in this respect.

A lack of resources during a person's life-course proved to be important for explaining why low-educated people tend to be socially less committed than high-educated people. A lack of human capital, labor market success, and social network resources imposes cognitive, financial, and social restrictions on low-educated people, which probably results in their withdrawal from activities that express social commitment.

The implications of these findings have some far-reaching implications. First, low-educated people lose their commitment to and interest in political matters, partly because the complex manner in which political matters are presented reduces their appreciation of and understanding for politics. It is extremely important that the most vulnerable groups especially maintain or regain their faith in political institutions and refrain from detaching themselves from these institutions. Therefore, it is important for the governors of society to maintain contact with those they represent. Second, financial constraints also result in low-educated people being more likely to lose touch with what goes on in society. Low-educated people are relatively unsuccessful in the labor market, and consequently they probably cannot always afford to be socially committed, even though they might want to. Again, it is especially important for the most vulnerable groups to keep in touch with developments in society because social changes tend to hit these groups the hardest.

To what extent is the effect of social background, cognitive ability, labor market resources, and partner's education on social commitment stronger for low-educated people than for high-educated people. Only sometimes other factors than education can compensate the less intensive socialization at school in society's dominant norms on civic virtues of the low-educated. Two factors that were clearly very important for the enhancement of social commitment in general also proved to be more influential for low-educated people than for high-educated people: parental cultural resources and cognitive ability. People who have qualifications have their interest in societal matters aroused typically through school. People who have been socialized less intensively at school, can receive more or less the same input through another socializing channel: their parents. The lack of socialization at school for low-educated people is partly compensated if their parents are culturally active. Thus, for low-educated people it is particularly important to have had parents who transmitted their own interest in social and political matters to their

children. The same compensational influence is found in cognitive ability. If low-educated people are cognitively developed, they are likely to enhance their social commitment even though their socialization at school was less intensive.

Chapter seven

Conclusions and discussion

7.1 Social and economic risk and the low-educated

The aim of this study was to describe the social and economic risk that the low-educated experience in the Netherlands, to study changes across birth cohorts and over the life-course, and to provide explanations for the relatively low level of labor market success and social commitment of the low-educated. This chapter summarizes the most important findings, provides answers to the research questions, and discusses several advancements and recommendations for further research.

7.1.1 Economic risk: being employed and becoming unemployed

Are the low-educated less often employed than the high-educated, and do they experience a higher risk of becoming unemployed during their occupational career? The low-educated indeed are less often employed than the high-educated (chapter 2). This difference is found over the complete life-course, at all points in time between 1977 and 1998, and for men as well as women. A comparison between primary-educated and lower secondary-educated men showed that there is a disproportionately large difference in employment chances between both groups, while the differences between the lower secondary educated, higher secondary educated, and tertiary educated men appeared smaller or even non-existent. The influence of education seemed not to be linear. For women, employment chances increased linearly, which means that the differences in economic risk between subsequent educational groups were similar. In addition, primary educated people are most likely to experience the event of becoming unemployed during their work career (chapter 5). Again, there seemed to be a hierarchy in economic risk that corresponded with the categorization of education. The only substantial difference was between primary education and tertiary education for both men and women, while all other comparisons proved insignificant. Thus, the primary-educated experience the most serious economic risk in terms of becoming unemployed during the occupational career.

A comparison of models with a linear or a categorical measurement of educational level shows whether there are substantial differences in the fit of these models and whether there are significant differences in the effects of education. The results in Table 7.1 show the extent to which non-linear educational measurements lead to different conclusions than linear estimations of the educational effect, with regard to being employed (chapter 2) and experiencing the event of becoming unemployed during the occupational career (chapter 5). The M1 models contain the original non-linear estimations of the educational effect. The M2 models are exactly the same, the only difference being that the educational groups were replaced by a linear measurement of education (tertiary education=0, higher secondary education=1, lower secondary education=2, and primary education=3). The coefficients in the M2 models are the values that can be calculated for each educational group on the basis of the single linear regression coefficient of education (for instance, -1.53 for the employment chances of the primary-educated is 3 times the linear effect of -0.51). Logically, in the M1 models, the

distances between the subsequent educational categories do not have to be similar, while in the M2 models this is always the case. What do we learn from comparing both models?

Table 7.1: Comparison of the economic risk models (employment and becoming unemployed) with a categorical and linear measurement of educational level

	Employment				Becoming unemployed[b]			
	Men		Women		Men		Women	
	M1	M2[a]	M1	M2[a]	M1	M2[b]	M1	M2[b]
Primary education	-1.48	-1.53	-1.96	-1.98	0.65	0.75	1.24	0.96
Lower secondary education	-0.68	-1.02	-1.47	-1.32	0.19	0.50	0.82	0.64
Higher secondary education	-0.29	-0.51	-0.79	-0.66	0.07	0.25	0.72	0.32
Tertiary education (ref)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-2 Log Likelihood	182673.1	183116.9	316432.3	316673.5	2384.4	2386.2	1506.6	1507.8
P for Δ fit with Δ df=2	p=0.000		p=0.000		p=0.413		p=0.530	

a: Re-estimations of M1 models in Table 2.3 (men) and 2.4 (women), but this time for all age groups together and without the year*education interactions.
b: Re-estimations of M1 models in Table 5.4.

First, with regard to employment, it shows that a categorical inclusion of education results in a significantly better fit. However, this is not the case for becoming unemployed. The employment models are based on large-scale labor force surveys and therefore the likelihood of finding significant differences in fit is higher than in the case of the event-history models. Nevertheless, in half of the cases a significantly worse-fitting model occurs if a linear measurement of education was used. Second, apart from the issue of significant or insignificant differences in model fit, it seems that a linear model for the effect of education would conceal some interesting findings. Primary-educated men are disproportionately unlikely to be employed and disproportionately likely to become unemployed. Tertiary-educated women are disproportionately unlikely to become unemployed. Furthermore, the chance of becoming unemployed for primary-educated women would have been underestimated with a linear measurement of education. Thus, categorical inclusion of education sometimes leads to better-fitting models, and it often reveals interesting differences between educational groups. In the case of employment and becoming unemployed, the largest distance in economic risk is found between primary-educated men and lower secondary-educated men.

7.1.2 Economic risk: occupational status and mobility

If employed low-educated people are compared with employed people from other educational categories, do they have jobs of a lower level (chapter 2), are they more likely to experience downward mobility (chapter 5), and are they less likely to experience upward mobility (chapter 5)? Several findings stood out, and they lead to the following conclusions. First, the distribution of economic risk in terms of job level strongly corresponded with the hierarchy in the educational groups that were distinguished. This conclusion holds true for both men and women, pertains to the complete life-course, and to all points in time between 1977 and 1998. The low-educated run the highest economic risk. Nothing new so far, one might say. However, the descriptive tables depicted in chapters 2 and 5 also showed that, in general, the difference in economic risk between the primary-educated and lower secondary-educated is quite small, while the difference

between the higher secondary-educated and tertiary-educated is large. With increasing education, it therefore seemed that in terms of having a job of a lower level, the level of economic risk first remained quite stable or decreased slightly, after which the economic risk dropped at an increasingly sharp pace. Second, with regard to mobility patterns during the occupational career, the results also showed that the low-educated experience the most economic risk. They were least likely to experience upward mobility and most likely to experience downward mobility. The conclusion again is that the differences in economic risk during the occupational career between the primary-educated and lower secondary-educated, in terms of upward and downward mobility, are relatively small, while the differences between higher secondary-educated and tertiary-educated are larger. An increasingly strong downward pace in economic risk is found with increasing education.

Table 7.2: Comparison of the economic risk models (occupational status, upward career mobility, and downward career mobility) with a categorical and linear measurement of educational level

	Occupational status				Upward mobility				Downward mobility			
	Men		Women		Men		Women		Men		Women	
	M1	M2[a]	M1	M2[a]	M1	M2[b]	M1	M2[b]	M1	M2[b]	M1	M2[b]
Primary education	-29.00	-28.74	-26.29	-26.82	-1.32	-1.26	-1.14	-1.14	0.82	0.78	1.08	0.99
Lower secondary education	-24.54	-19.16	-20.44	-17.88	-1.08	-0.84	-1.06	-0.76	0.65	0.52	0.85	0.66
Higher secondary education	-17.69	-9.58	-15.59	-8.94	-0.73	-0.42	-0.59	-0.38	0.42	0.26	0.63	0.33
Tertiary education (ref)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fit statistic[c]	38.0 %	33.1 %	25.0 %	22.1 %	6881.3	6887.5	3324.2	3327.7	4799.3	4800.5	2572.0	2573.8
P for Δ fit with Δ df=2	p=0.000		p=0.000		p=0.045		p=0.174		p=0.549		p=0.407	

a: Re-estimations of M1 models in Table 2.6 (men) and 2.7 (women), but this time for all age groups together and without the year*education interactions.
b: Re-estimations of M1 Models in Table 5.5 and Table 5.6.
c: The estimation of occupational status was employed with linear estimation techniques. Therefore, the R-squared was used. For the mobility variables, the -2 Log Likelihood was used because the models are based on logistic estimation techniques.

Table 7.2 contains the information required to decide whether the inclusion of a linear measurement of education would lead to different conclusions and to the presentation of models with a sub-optimal fit. This table follows the same logic as Table 7.1, but this time the dependent variables are job level and mobility chances for those in employment.

In half of the cases, a worse-fitting model is the result if education is included linearly. Education has a non-linear relationship with attained occupational status for both men and women. For men, education non-linearly affects the odds of experiencing upward mobility during the occupational career. In the other cases, the fit does not become significantly worse. It has already been concluded that in the case of occupational status and mobility chances, the difference between the two lowest groups with the lowest level of education was quite small, while the difference between the higher secondary-educated and tertiary-educated was large. Table 7.2 shows that these disproportionate differences between the educational groups are not noticeable if education is considered to have a linear effect on economic risk. Primary-educated people experience the most economic risk in terms of occupational status and mobility. For each subsequent educational group, the level of economic risk drops more strongly. In general, the low-educated experience

the highest level of economic risk, and the educational differences in economic risk do not often follow a linear pattern.

7.1.3 Social risk

To what extent is there a difference in various forms of commitment to society between low-educated and high-educated people in the Netherlands in terms of electoral participation, political interest, reading newspapers, membership of societal organizations, and voluntary work for local organizations (chapter 6)? For each indicator, the low-educated scored lowest. Therefore, it seemed to be the case that the low-educated were least likely to express those activities that indicate a certain interest in, and attachment to, society. This lower propensity for expressing behavior that indicates social commitment in general was present over the complete life-course (age 20 to 60), and over a large historical period (the cohorts from 'before 1940' to 'after 1960').

Table 7.3 shows the differences in social commitment between models with a non-linear incorporation of education (M1) and a linear inclusion (M2). What conclusions can be drawn? One finding is that categorization does not lead to better-fitting models. However, in two out of five cases, the difference between the models almost reaches significance. With regard to political interest, it shows that lower secondary-educated people are less interested compared to the primary-educated, which is opposed to what one would expect if education linearly affects social risk. In the case of societal organization membership, our conclusion is that with a linear incorporation of education, the difference between the primary-educated and lower secondary-educated is probably underestimated. As a matter of fact—and this is the second interesting finding—for reading newspapers and voluntary work for local organizations, the same underestimation seems to occur if education is assumed to linearly affect social risk. Thus, it seems that in these cases the educational differences in social commitment are larger at the bottom of the educational distribution than at the top. In general, the low-educated are socially less committed than the high-educated in terms of electoral participation, political interest, reading newspapers, societal organization membership, and performing voluntary work.

Table 7.3: Comparison of the social risk models (five indicators of social commitment) with a categorical and linear measurement of educational level

	Electoral participation		Political interest		Reading newspapers		Membership societal organization		Voluntary work local organization	
	M1	M2[a]	M1	M2[a]	M1	M2[a]	M1	M2[a]	M1	M2[a]
Primary education	-4.19	-4.26	-1.81	-2.82	-3.38	-3.03	-4.67	-4.23	-1.20	-1.14
Lower secondary education	-2.79	-2.84	-2.13	-1.88	-1.81	-2.02	-2.38	-2.82	-0.53	-0.76
Higher secondary education	-1.32	-1.42	-0.54	-0.94	-0.52	-1.01	-0.97	-1.41	0.06	-0.38
Tertiary education (ref)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-2 Log Likelihood	2574.2	2572.6	2382.4	2387.3	2225.8	2228.1	2764.9	2769.0	2716.3	2719.5
P for Δ fit with Δ df=2	p=0.450		p=0.087		p=0.317		P=0.129		p=0.202	

a: Re-estimations of M1 models in Table 6.2.

7.2 Changes in social and economic risk of the low-educated

This section considers the results with regard to the changes in social and economic risk. In chapter 1 we introduced two perspectives: birth cohort trends and changes over the life-course. One reason it was expected the low-educated to experience more difficulties nowadays than in the past, is that the relative position of the low-educated may have deteriorated. Due to the increased number of high-educated people, and because education is assumed to be a positional good, the low-educated people are assumed to have experienced increasingly strong competition during working life. In social life areas, the increasingly negative connotation that a low education has might also have resulted in an increased social risk. A second reason was that, over time and during the life-course, the composition of the group of the low-educated might be subject to harmful changes, such as the disappearance of hidden talent and an increasing overrepresentation of people from the most disadvantaged social backgrounds. These qualitative changes could result in a stronger association between education on the one hand, and cognitive ability and social background on the other, and in a narrower dispersion within the group of the low-educated. For the life-course perspective, a 'positive' life-course hypothesis was also formulated, which was derived from the idea that the further one gets in one's occupational career, the more important actual working experience becomes as an indicator of productivity, while educational attainment becomes less important.

7.2.1 Changes in group size, association, and composition

Has the group of the low-educated become smaller over time, and does it become smaller over the life-course? In both cases the answer is yes. Chapter 2 showed that for each subsequent birth cohort, the percentage of primary-educated people was lower. Moreover, within each birth cohort, the percentage also dropped over time, implying that a substantial part of the group of the low-educated gained additional qualifications during their occupational career. In chapter 5 this claim was actually confirmed. A large part (more or less 30 per cent) of the people who entered the labor market with a low education, gain additional qualifications during the occupational career. The group of the low-educated did become smaller across birth cohorts, and does become smaller over the life-course. This assumption underlying the structural argument therefore does hold true.

What about the changes in the composition of the group of low-educated people? Did the increased efficiency of the educational system regarding the allocation of talented youth to the higher levels, lead to a stronger association between education and cognitive ability, and did it result in a group in which hidden talent became increasingly scarce? Did the association between social background and education also become stronger, and to what extent are the low-educated nowadays more likely to originate from the most disadvantaged social backgrounds than in the past, resulting in a more unfavorable social background composition? It turned out that the association between education and cognitive ability has been stable across birth cohorts (chapter 3). This, however, did not mean that the group of the low-educated was not subject to compositional changes. The average level of cognitive ability declined for the group of low-educated people, in

combination with a significantly decreasing variance. These findings suggest that the group of the low-educated did become a more negative selection with regard to cognitive ability. A perhaps unexpected result of the educational expansion has been that the higher educational levels became more easily attainable for less talented pupils, resulting in a more heterogeneous group of high-educated individuals. Nevertheless, on the basis of the described findings, it can be expected that the social and economic risk that the low-educated experience has become stronger.

Chapter 4 distinguished various social background indicators to address changes in association with education (dropout without a secondary qualification), and compositional changes of the dropout group. In compliance with the findings of previous research with linear measurements of education, the association between parental financial resources and dropout became weaker over time. The association between parental education and children's dropout also declined. Parental cultural capital and parental socio-demographic resources showed a stable effect on dropout in all birth cohorts. One important conclusion was that, nowadays, especially parental cultural capital and a stressful family situation (parents divorced or a young mother) are important predictors of dropout risks. Odds ratios calculated for various birth cohorts did not show that the composition of the dropout group became more disadvantageous. However, a comparison between the dropout and non-dropout groups did indicate that the compositions of both groups diverged from each other in a negative manner for the dropout group. Compared to members of the non-dropout group, dropouts became increasingly more likely to originate from families with a low occupational status, with little cultural capital, with many siblings, and in which the parents were divorced. In summary then, the results are in line with the expectation of increasing social and economic risk.

7.2.2 Changes in economic risk

To what extent did the differences in employment and occupational status between low-educated and high-educated men and women change over time (years of measurement) and over the life-course? Chapter 2 showed that particularly young low-educated men between 25 and 34 became increasingly less likely to find employment in the period between 1977 and 1998. Young low-educated men became increasingly vulnerable to a difficult start to their occupational career. These increasing differences found between the low-educated and high-educated are only partly a result of increased competition from a higher number of high-educated individuals. Particularly low-educated men aged between 25 and 34 and lower secondary- educated women between 25 and 54 experienced negative economic consequences from the educational expansion. With regard to occupational status, only decreasing differences between the low-educated and high-educated were found. This contradicted the expectation of increasing economic risks. The most plausible explanation for this is that the occupational structure has changed. Jobs for which only elementary skills are needed decreased in number, resulting in employed low-educated people having a higher average occupational status nowadays than in the past.

Chapter 2 also tested a negative and a positive life-course hypothesis. According to the negative life-course hypothesis, the differences in economic risk between the low-

educated and high-educated increased over the life-course, while according to the positive life-course hypothesis, differences decreased. Therefore, the interactions between education and the percentage of low-educated people in the year of measurement were compared across these age groups. We examined the life-course hypotheses by comparing the strength of the interaction between age and education, although one should be aware that these life-course hypotheses were tested with models that could only provide a preliminary answer, since the age groups in these models are pseudo cohorts. The negative life-course hypothesis is confirmed if the strength increased. The opposite, however, was the case. The high number of high-educated people in the year of measurement negatively affected the employment chances in particular of the young low-educated. For the older age groups, this structural effect was mostly non-existent. For women, the structural effect also did not become stronger over the life-course. With regard to occupational status, the structural effects contrasted with the expectation. Therefore, we can conclude that the disadvantages related to a low education are most prominent at the beginning of the occupational career. After that, a low education does not further limit occupational chances.

Chapter 5 provided a better answer to the question of increasing or decreasing economic risk across birth cohorts and during the life-course. The most important conclusion was that across birth cohorts and during the life-course, the differences in economic risk between the low-educated and the high-educated mostly remained stable. The low-educated run an initial economic risk that proved to be quite substantial, but which has been subject to only minor changes. There were two exceptions, however. First, the positive life-course hypothesis was confirmed, because the low-educated run the highest risk of becoming unemployed in their early occupational career compared to the high-educated. But during the life-course, the relative risks of unemployment for these educational groups become more alike. Second, particularly low-educated women seemed to have become increasingly marginalized. The difference in the chance of experiencing upward mobility between low-educated and high-educated women, which was already present in the early career, increased during the life-course. Furthermore, across the birth cohorts the difference also grew in favor of the high-educated women.

In summary then, even though the structural and compositional changes suggested that unfavorable birth-cohort changes and life-course changes could be expected for the low-educated, this is only the case to a limited extent. Only low-educated women seem to have become more marginalized across birth cohorts and over the life-course in terms of mobility chances. In terms of employment chances, both men and women experience the most economic risk in their early occupational career, after which their relative risk remains stable or even becomes smaller.

7.2.3 Changes in social risk

To what extent has the difference in social risk between the low-educated and high-educated in the Netherlands become larger across birth cohorts and over the life-course? The most important conclusion was that in addition to initial differences in social commitment, particularly with regard to commitment to political aspects of society, the

low-educated experienced an increased marginalization (chapter 6). Across birth cohorts, the electoral participation of the low-educated declined more strongly than the electoral participation of high-educated people. With regard to political interest, social marginalization took place over the life-course as well as across birth cohorts. Within subsequent birth cohorts, low-educated people are increasingly less politically interested and during the life-course, low-educated people are less likely than the high-educated to gain political interest. With regard to reading newspapera, the picture is somewhat more complicated. The low-educated read the newspaper less often than the high-educated, and across birth cohorts a divergence was observed until 1950. After that, the youngest cohorts of low-educated people became more likely to read the newspaper. Over the life-course, convergence between the low-educated and high-educated was found. Until the age of 40, the lower secondary-educated were more likely to take up newspaper reading than the high-educated. After that age, educational differences were stable, and no further changes were found. In all, the results seemed to point more towards an increased social risk for the low-educated than towards a stable or even decreasing risk, particularly for the expression of commitment to society in terms of political participation and interest.

7.3 Explaining the relation between social and economic risk and the low-educated

A twofold explanation for the existence of differences in social and economic risk between low-educated and high-educated people was introduced. For educational differences in both social and economic risk, we first studied the extent to which they existed as a result of the higher probability that low-educated people originate from a disadvantageous social background, where social and economic risks are directly transmitted to children, and indirectly through a relatively low educational attainment. In other words, to what extent is the association between education and social and economic risk spurious? Second, intermediary factors (cognitive ability, acquisition of additional training in the cases of economic risk, and human capital, labor market success, and partner's education for social risk) were introduced to explain the relationship between education on the one hand, and social and economic risk on the other. In addition, it was proposed that in order to reduce social and economic risk, it would be more important for low-educated people to have access to these resources than for the high-educated.

7.3.1 Explanations for economic risk

How can the difference in economic risk between low-educated people and high-educated people in the Netherlands be explained? Chapter 5 showed that the difference in economic risk between the low-educated is only partly spurious. Parental occupational status directly influenced upward mobility, and indirectly through children's educational attainment, which resulted in a reduction of some 15 per cent in the difference in the odds of upward mobility between the low-educated and the high-educated after correction for social background. In the case of unemployment risk and downward mobility risk, the

difference between the low- educated and the high-educated was not reduced if social background was included. Therefore, the economic risk that the low-educated experience does not exemplify so much that someone suffers from the economic disadvantages related to a lower social class. Low-educated people do not have fewer labor market opportunities because their low education indicates having parents with less favorable characteristics. Rather, the negative impact of a low qualification results from the connotation that might be attached to such an education . Low-educated people might be less productive and less able to learn additional relevant occupational skills.

To what extent are cognitive ability and the acquisition of additional training able to explain the differences in economic risk between the low-educated and the high-educated? With regard to becoming unemployed and upward mobility, this was only the case for men. In both cases, the educational difference was interpreted for about 20 per cent. The educational difference in downward mobility was partly explained for both men and women. 20 per cent for the difference between primary and tertiary education, and 10 per cent for the difference between lower secondary and tertiary education. Therefore, the economic risk of the low-educated is higher, partly because they score lower on cognitive ability, which functions as an indicator of trainability, and partly because they acquire less additional training, which might indicate that they are less able to learn necessary occupational skills. Additional training proved to independently affect economic risk only for women, while for both men and women, cognitive ability has a large independent effect. Apparently, a higher cognitive development is rewarded in the labor market, independent of educational attainment. Thus, for men a relatively low level of cognitive ability seems to be the most important explanatory factor for the high economic risk of the low-educated, while for low-educated women both a relatively low level of cognitive ability and a lack of additional training are part of the explanation.

To what extent is it more important for low-educated individuals to originate from an advantageous social background, to accumulate human capital, and to work during economically favorable times than for high-educated individuals in order to reduce their economic risk? We discovered several interesting findings. First, an advantageous social background is more likely to reduce downward mobility risks for low-educated people than for high-educated people. Second, additional human capital in terms of years of unfinished education also more strongly reduced downward mobility risks for low-educated people than for the high-educated. Third, unemployment risks were more strongly reduced for the low-educated than for the high-educated if they acquired additional training during their occupational career. Fourth, working under favorable economic conditions increased the odds of upward mobility more for low-educated women than for high-educated women. An important conclusion is that low-educated people are able to counteract economic risks if they have access to resources other than their own education and if they work under favorable economic conditions.

7.3.2 Explanations for social risk

How can the difference in social risk between low-educated people and high-educated people in the Netherlands be explained? The first explanation proposed was that the low-

educated are more likely to originate from social backgrounds where a low level of social commitment was directly transmitted from parents onto their children through a relatively low level of parental resources and through the imitation of parents' behavior. In chapter 6, we distinguished parental financial resources and cultural resources, and parents' own social commitment behavior. With regard to political interest and performing voluntary work, the relationship with education was partly spurious: social background had a direct effect on social commitment and an indirect effect through education. For political interest, the difference between the lower secondary-educated and tertiary-educated was explained with 34 per cent. For voluntary work, the difference between the primary educated and tertiary educated was explained for 25 per cent, while the difference between the lower secondary educated and tertiary educated was explained with even 40 per cent. In these cases, it can be concluded that growing up in families where a low level of social commitment is directly transmitted from parents to children increases the social risk that the low-educated experience.

A lack of human capital, relatively little labor market success, and a higher probability of having a low-educated partner were able to explain a large part of the differences in social commitment between the low-educated and the high-educated. Eight out of ten possible differences in social commitment between educational groups (5 times primary versus tertiary, and 5 times lower secondary versus tertiary) were explained for more than 25 per cent. Six out of ten explanations attained a figure even higher than 40 per cent. Cognitive ability and a high-educated partner enhance one's interest in what goes on in society. Another interpretation might be that people successful in the labor market suffer less financial strain and have more resourceful colleagues. They therefore might be able to finance the more expensive forms of social commitment, and might be stimulated by their colleagues to be socially committed. Low-educated people are more likely to lack these resources, and therefore are less likely to be socially committed than high-educated individuals.

The results with regard to the different impact of social background and resources on social commitment for different educational groups were mixed. On some occasions, scoring higher on these factors resulted in more positive social outcomes for the low-educated, while in other instances, the high-educated were better off. Being cognitively developed and originating from a culturally active family particularly compensates the lack of qualifications of the low-educated. However, since a number of outcomes contradicted the expectations, no pattern can be found in the outcomes, and therefore drawing conclusions on the basis of these findings would be premature. In all, the relatively low level of social commitment of the low-educated can be explained only to a limited extent by their high likelihood of originating from social backgrounds where a lower level of social commitment is directly transmitted from parents to their children. A more important factor is that low-educated people have fewer resources that are likely to enhance a general interest in society than high-educated people.

7.4 Advancements and paths to further progress

The research presented in this study advances upon earlier research in several ways, and leads to new questions for future research. This section will provide a discussion of both sides, by addressing some issues with regard to the topic of the study, the theoretical perspectives, and the data and measurements that were used.

7.4.1 Issues concerning the focus on low-educated people

One of the main reasons for initiating this study was that in stratification research, a focus on the group of low-educated people is quite uncommon. It was considered to be an advancement to specifically focus on a group of people that in post-industrial society—where qualifications play a key role in the determination of life chances—runs a high risk of becoming economically and socially marginalized. Answers to questions like: 'to what extent do low-educated people increasingly belong to the most vulnerable groups of our society?' provide us with important clues on how to look at situations that are disadvantageous for individuals as well as for societies. This study therefore addressed important aspects of social inequality and social cohesion, and used existing knowledge on these topics to examine the situation of the low-educated in the Netherlands.

The specific focus on the low-educated did lead to several new insights. Low-educated people often experience a disproportionately high level of social and economic risk. Parkin (1991) once argued that occupation is the backbone of society. This study, together with others, suggest that education is the spinal cord (Ultee and Luijkx, 1990; De Graaf, Smeenk, Ultee and Timm, 2003). The comparison of models with different measurements of education showed that it is often better to consider educational groups instead of linear measurements. This was particularly the case for predicting economic risk. And even if models do not differ from each other substantially, considering the varying distances between educational groups of itself leads to interesting insights. Furthermore, in some cases the social situation of the low-educated became more disadvantageous over historical periods and during the life-course, and in terms of economic risk, low-educated women have experienced an increased marginalization. Another important insight was that in order for low-educated people to counteract economic risks, it is particularly important to have access to other resources, such as cognitive ability and additional training. These compensate the negative impact of their lack of qualifications.

On the other hand, particularly in the case of estimating the extent of social risk, the specific focus on the low-educated did not lead to an improvement of the models. Therefore, the same results would have been found if education had been treated linearly. It is clear that the approach to the problem depends on the questions that the researcher is interested in. In this case, a specific focus on the lowest educated was necessary, even though looking at educational groups did not always lead to a presentation of better empirical models.

An area for future research concerns a more thorough comparison of the social and economic risk of the primary-educated and the lower secondary-educated. In this study,

they have been treated separately, but no theoretical ideas were presented to explain possible differences between both educational groups. Individuals with a lower secondary vocational qualification have learnt specific occupational skills at school, while people without any secondary education have not. But, due to the educational expansion, it might well be that lower vocational training became the level at which the least talented pupils enroll. Some findings in this study suggested that this has occurred, but it would definitely be worthwhile studying this issue further.

Another area for future research regards the focus on other vulnerable groups, such as ethnic minorities. With the increasing number of ethnic minorities in the Netherlands, and the increasing proportion of ethnic minorities within the group of low-educated people, the topic has become more important over time and is related to our study. For a better understanding of the negative impact of having a low education, it is important to incorporate ethnic minorities into future research. For this purpose, it is recommended to first precisely determine the educational careers of ethnic minorities to cope with problems of comparison. Furthermore, it is important to use other measurements for economic risk, and particularly for social risk. For economic risk for instance, the ethnic composition of the firm for which someone works is of interest, and with regard to social integration, it is important to study the number of persons in someone's network who do not belong to an ethnic minority group.

7.4.2 Theoretical issues

Several theoretical perspectives have led to advancements in the field of social stratification and the field of research that addresses the relationship between labor market risk and social exclusion. First, to predict changes in social and economic risk, compositional changes of the group of low-educated people were determined with regard to cognitive ability and social background, in addition to changes in the association of education with these individual characteristics. The idea of 'stigmatization by negative selection' (on social background) was developed by Solga (2002) to predict deteriorating employment opportunities. By also looking at social risk and by determining compositional changes with regard to cognitive ability, this theoretical perspective has been broadened. Second, in this study attention has been paid to spuriousness of relationships as well as to the interpretation of relationships. Particularly in poverty research and in research that addresses the relationship between economic and social precarity, the spuriousness perspective is often disregarded. Third, this study introduced new hypotheses to explain the high level of social and economic risk of the low-educated. Additional human capital was put forward to explain the high level of economic risk, and labor market precarity, additional human capital, and partner's resources were introduced to explain their relatively high level of social risk. Particularly the explanation of social risk with labor market success provided the link between social stratification research and research on vulnerable groups.

There are several ways to improve upon the explanation of social and economic risk. It might be particularly fruitful to address more contexts. First, in some countries low-educated people might be better protected against economic risk than in other

countries. One could for instance imagine that the power of labor unions and the importance of collective labor agreements differ between countries. Country comparisons are also important for a better understanding of selection and allocation mechanisms. In some countries, the group of low-educated people might have been more subject to negative selection mechanisms than in other countries. In this respect, it is also interesting to study differences between countries concerning the efficiency of educational systems with regard to allocating talented children to the higher educational levels and the extent that school helps to intergenerationally preserve social inequalities.

Second, the neighborhood in which one lives determines an important part of someone's social network. It could be the case that in the neighborhoods in which low-educated people are likely to live, the number of people who have relatively many resources that can be attributed to economic progress and a social life characterized by a high level of interest in what goes on beyond the neighborhood is rather low. This might particularly be the case in highly segregated areas, in which negative norms with regard to employment and social behavior might even emerge. For the same reasons, taking a closer look at regions or municipalities might also be an interesting way to make progress, as is a focus on the housing conditions of low-educated people. Other aspects of the social network also deserve more attention. With regard to the family dimension of the social network, this study limited itself to examining the impact of the partner's education and the presence of children. Whether the partner works and the job characteristics, the total family income, and all sorts of leisure activities that are undertaken with the family are also important to incorporate when studying the social commitment of low-educated people. Moreover, not all actors in the social network received attention, because of unavailability of data. As a result of differences in occupational careers and leisure-time activities, low-educated people are more likely to have fewer resourceful friends and colleagues than high-educated people. The social network explanation for social risk can therefore be broadened to encompass a wider definition of social networks.

7.4.3 Data and measurement issues

The FSDP2000 contains questions that were specifically developed for this research project. This unique dataset with retrospective information made possible a simultaneous study of life-course changes and historical trends. The combination of both perspectives is an advancement in the fields of social stratification and social cohesion. Moreover, the retrospective nature of the data also enabled the estimation of event-history models for economic risk, and multilevel models for social risk. In both cases, the determination of individual life histories resulted in accurate models in which the causation of events was clear.

Of course, there are some problems connected to this research design. Retrospective studies always contain some issue of selective memory, particularly if histories of respondents go back far into the past. A panel design would be a solution for this problem, because it very precisely determines when a person experiences some event, or when they changed in attitude or behavior. Panel studies do suffer from attrition however, and most studies do not cover large individual histories. Furthermore, the extent

to which problems in remembering bias the results of multivariate analyses is not clear. If they are systematic, i.e. that low-educated people have more difficulties in reconstructing their careers than high-educated people, then a bias could occur. This is not unrealistic, but we have not been able to examine it. In general, it is recommended to invest in research that addresses this issue. Another way of improving the current research is to combine retrospective surveys. In this way, power problems, which sometimes occurred during this research, will be less of an issue.

With regard to measurement issues, several advancements are worth mentioning. The incorporation of additional training paid by the employer, personally paid additional training, and adult education enhanced the explanation of labor market success. The retrospective recording of this information has led to new insights into the field of social stratification. Particularly interesting results are that only women profit from additional training, and that it is more important for low-educated people to have it than for high-educated people. The inclusion of verbal ability as a measure of cognitive development can also be considered to be an advancement. It is not very common to simultaneously include cognitive ability measurement and education in models to explain social and economic risk. Both variables often proved to independently affect social and economic risk. Finally, the retrospective measurement of social commitment is innovative in the field of social cohesion. Measuring it at ages 20, 30, 40, 50, and 60 enabled the reconstruction of individual social histories. Of course, there are drawbacks to this way of measuring social commitment, which will be discussed briefly, but it has extended our knowledge on how to explain social risk.

In future research, solving some measurement issues would lead to further understanding of the problem of social and economic risk. First, stronger and more specific measurements of labor market and social outcomes might be interesting. To measure the level and persistency of economic marginalization, one could for instance think of looking at the duration of unemployment or disability spells, but also of the question regarding whether someone's income is below the poverty level. Furthermore, many unattractive jobs can be found in secondary labor markets or labor market segments, where working conditions might not be that favorable. These jobs might be temporary, low-paid, unhealthy, monotonous, and may provide no opportunities for autonomous work and further personal development. They also might have to be performed under high time pressure. Furthermore, differences between firms are also interesting. It might be that the low-educated are more likely to have jobs in firms that do not provide attractive primary and secondary labor conditions. To study social exclusion, one could think of the number of friends or acquaintances someone has, and the level of social capital within someone's personal network. Another way of studying the level of social exclusion is by studying subjective measures such as feelings of loneliness, or objective measures such as depressiveness or health. And what is more, social situations are more unhealthy if different indicators of social risk are present at the same time. A lot of knowledge might be gained if social risk is measured multidimensionally, and with stronger indicators. Finally, the incorporation of cognitive ability by itself can already be seen as a sign of progress, but the additional inclusion of a measurement of initial talent would have provided more conclusive findings. It has nevertheless been shown that additional human

capital is an important factor in the understanding of the social and economic risk that low-educated people experience.

Looking at the most important findings of this thesis, how can the situation of the low-educated in the Netherlands be summarized? Indeed, the low-educated do run the most social and economic risk, and particularly in the case of unfavorable employment opportunities, low-educated people run a disproportionately high risk. Although the low-educated are not disproportionately likely to be socially less committed, it is an important finding that for each indicator of social commitment they score lowest, and therefore belong to a vulnerable group. The situation of the low-educated in the Netherlands has not worsened: the social and economic risk are stable across birth cohorts, historical periods, and during the life-course. However, there are two important exceptions. Economically speaking, low-educated women have become more marginalized, and in terms of social commitment, both low-educated men and women became less likely to vote in parliamentary elections and became less politically interested. The primary reason that low-educated people run high social and economic risks can be found in their incapacity to produce and accumulate resources over the life-course. As low-educated men and women lack crucial resources like cognitive development, additional training, labor market success, and partner's resources, their economic and social careers follow less favorable patterns. However, if they have been able to develop their cognitive ability and to acquire additional qualifications during their occupational career, the negative impact of their lack of qualifications can be compensated considerably.

Appendix 1

Table A1.1: Five indicators of social commitment; interactions between education on the one hand, and birth cohort and age on the other, random effect logistic models.

	Electoral participation	***Political interest***	***Newspaper reading***	***Membership societal org.***	***Voluntary work local org.***
Primary school (ref)					
Lower secondary education	0.99	-3.13**	1.31	2.06*	0.78
Higher secondary education	-2.10*	-0.49	0.50	1.01	1.13
Tertiary education	34.49**	-3.08	4.42**	2.32	-19.90**
Age 20 (ref)					
Age 30	1.08*	1.02	1.39**	0.93	0.80
Age 40	1.59**	2.36**	2.68**	2.87**	1.70**
Age 50	0.53	2.53**	2.59**	4.02**	2.31**
Age 60	-0.48	2.82**	2.06**	5.94**	3.02**
cohort before 1940 (ref)					
cohort 1940-1949	0.02	-1.62	-0.71	0.54	0.93
cohort 1950-1959	-4.13**	-2.97*	-0.74	2.33~	1.18
cohort after 1960	-5.08**	-5.92**	-1.21	-0.37	-0.11
lower secondary * age 30	-0.61	1.21	1.03~	1.42~	-0.16
lower secondary * age 40	-0.55	1.93*	1.58*	0.95	0.04
lower secondary * age 50	1.15	9.98**	1.00	0.81	-0.39
lower secondary * age 60	1.33	4.60**	2.60*	-0.26	-0.61
higher secondary * age 30	-0.88	0.19	-0.34	0.95	0.14
higher secondary * age 40	-1.21	-0.31	-1.11	0.68	0.17
higher secondary * age 50	0.57	0.68	-0.06	0.12	-1.04
higher secondary * age 60	2.16	0.71	2.12	-0.13	0.21
tertiary * age 30	-33.39**	4.90~	0.32	2.55	20.10**
tertiary * age 40	-33.27**	4.05	-1.29	2.49	21.03**
tertiary * age 50	-32.81**	4.27	-0.46	2.06	21.37**
tertiary * age 60	-32.62**	3.68	-1.31	0.83	21.70**
lower secondary * 1940-1949	-0.34	-0.73	-0.03	-1.10	0.23
lower secondary * 1950-1959	1.88	2.99*	-0.25	1.84	-0.20
lower secondary * after 1960	-0.97	4.25*	-2.04	-1.83	0.91
higher secondary * 1940-1949	3.02**	3.00~	3.42**	2.01	0.29
higher secondary * 1950-1959	8.54**	3.49*	4.21**	4.51**	-0.09
higher secondary * after 1960	5.19*	3.72	0.24	2.90	0.80
tertiary * 1940-1949	1.60	1.47	0.56	-0.14	0.01
tertiary * 1950-1959	4.22**	1.75	1.82	2.91~	0.26
tertiary * after 1960	3.17	4.87*	-3.37*	1.31	2.07
Constant	2.87**	-4.85**	2.02**	-8.03**	-5.62**
-2 Log Likelihood	1267.78	1195.51	1092.16	1383.64	1377.25
Degrees of freedom	31	31	31	31	31
Number of individuals	1239	1233	1232	1273	1273
Number of observations	3399	3391	3394	3615	3615

Source: Family Survey Dutch Population 2000
** P < 0.01; * P < 0.05; ~ P < 0.10

Summary in Dutch (Nederlandse samenvatting)

Economisch en sociaal risico voor laagopgeleiden: een korte inleiding

In deze studie zijn drie algemene onderzoeksvragen beantwoord, met als doel een beeld te krijgen van het sociaal en economisch risico dat laagopgeleiden in Nederland lopen. De beschrijvende onderzoeksvraag die in deze studie aan de orde is gekomen luidt: In welke mate ervaren laagopgeleiden in Nederland meer economisch en sociaal risico dan hoogopgeleiden. De tweede onderzoeksvraag heeft zich gericht op ontwikkelingen over de tijd en gedurende de levensloop. De vraag is in welke mate de verschillen in sociaal en economisch risico tussen laagopgeleiden en hoogopgeleiden toenemen. Ook is een verklarende onderzoeksvraag geformuleerd, namelijk: hoe kunnen verschillen in economisch en sociaal risico tussen laagopgeleiden en hoogopgeleiden worden verklaard. In deze Nederlandse samenvatting wordt allereerst de achtergrond van deze drie vragen nog eens kort uiteengezet. Daarna worden de resultaten en de daaraan verbonden conclusies en discussiepunten besproken, zoals deze in hoofdstuk 7 ook in het Engels zijn te lezen. Waar nodig wordt tijdens de bespreking van de resultaten steeds kort de achtergrond van de behandelde materie aangehaald.

Waarom is het van belang om wetenschappelijk onderzoek specifiek te richten op laagopgeleiden? Hoewel, allereerst, iemands hoogst bereikte opleidingsniveau vaak wordt gezien als een belangrijke bepaler van succes op de arbeidsmarkt en van kansen die men krijgt in het sociale leven, wordt de aandacht zelden specifiek gevestigd op de laagst opgeleiden. En dit terwijl juist deze groep mensen een verhoogd risico loopt op ongunstige arbeidsmarktcarrières en sociale uitsluiting. Opleiding wordt vaak gezien als een variabele die lineair samenhangt met economisch en sociaal risico, terwijl het juist waarschijnlijk is dat laagopgeleiden een bovengemiddeld hoog risico lopen. Misschien is het wel zo dat vooral de mensen zonder diploma een grote kans hebben om bijvoorbeeld werkloos te worden gedurende hun carrière, terwijl deze kansen voor de overige opleidingsgroepen klein zijn en niet zoveel van elkaar verschillen. Daarom is het belangrijk om verschillende opleidingsgroepen te onderzoeken. In dit onderzoek worden primair opgeleiden (alleen basisschool), lager secondair opgeleiden (vbo en mavo), hoger secondair opgeleiden (mbo, havo en vwo) en tertiair opgeleiden (hbo en wo) van elkaar onderscheiden, om zodoende het economisch en sociaal risico van deze groepen met elkaar te kunnen vergelijken. Zowel primair opgeleiden als lager secondair opgeleiden zijn in dit proefschrift als laagopgeleid beschouwd.

Een tweede reden om de nadruk te leggen op de laagopgeleiden is omdat de onderwijsexpansie van de afgelopen decennia als gevolg kan hebben gehad dat de toch al ongunstige positie van laagopgeleiden alleen maar is verslechterd. Vroeger was het niet ongewoon de school te verlaten zonder diploma. Het behalen van een lagere beroepsopleiding zorgde zelfs voor grote kansen op een goede baan. Tegenwoordig verlaten veel minder mensen de school in een vroeg stadium. Dit komt ten eerste omdat de leerplichtige leeftijd steeds is verhoogd. Ten tweede is het in de loop van de tijd ook belangrijker geworden een hoog diploma te behalen. Met de technologische ontwikkelingen van de afgelopen decennia is de behoefte aan goed geschoold personeel steeds groter geworden. Men gaat daarom gemiddeld langer naar school en haalt

tegenwoordig gemiddeld hogere diploma's. Dit zou echter wel als gevolg kunnen hebben dat diegenen die achterblijven zonder diploma, of tegenwoordig zelfs met een lager secondair diploma, het tegenwoordig moeilijker hebben dan vroeger. Wat levert het onderzoek op?

Economisch risico: werkloos zijn en werkloos worden

In welke mate zijn laagopgeleiden minder vaak werkzaam dan hoogopgeleiden, en in hoeverre hebben zij eveneens een grotere kans werkloos te worden gedurende de beroepscarrière? Ten eerste blijken laagopgeleiden inderdaad minder vaak werkzaam te zijn dan hoogopgeleiden (zie hoofdstuk 2). Dit verschil is gedurende de gehele levensloop aanwezig, alsook gedurende de gehele periode van 1977 tot 1998 en voor zowel mannen als vrouwen. Een vergelijking tussen primair en lager secondair opgeleide mannen laat zien dat het verschil in kansen op werk bovengemiddeld groot is, terwijl het verschil tussen lager secondair opgeleiden, hoger secondair opgeleiden en tertiair opgeleiden kleiner, of zelfs afwezig lijkt. De invloed die opleiding op werkzaamheidkansen uitoefent lijkt daarom niet lineair te zijn. Voor vrouwen daarentegen stijgen de werkzaamheidkansen lineair voor de achtereenvolgende opleidingsgroepen, wat betekent dat over het algemeen de verschillen in economisch risico gelijk zijn tussen de opleidingsgroepen.

Ook blijken primair opgeleiden een grotere kans te ondervinden werkloos te worden gedurende hun beroepsloopbaan dan hoogopgeleiden (zie hoofdstuk 5). Ook hier lijkt er sprake van te zijn dat economisch risico toeneemt naarmate het niveau van de opleidingsgroepen afneemt. Er blijkt echter slechts één verschil significant te zijn. Alleen het verschil in de kans op werkloosheid tussen primair opgeleiden en tertiair opgeleiden is significant, terwijl alle overige mogelijke vergelijkingen tussen de opleidingsgroepen niet significant blijken te zijn. Daarom ondervinden de primair opgeleiden het meest serieuze economische risico wanneer wordt gekeken naar de kans om werkloos te worden gedurende de beroepscarrière.

De hierboven beschreven verschillen zijn slechts van beschrijvende aard. Een vergelijking van de goedpassendheid van statistische modellen waarin in het ene geval een lineaire meting en in het andere een categorische meting wordt opgenomen (zie hoofdstuk 7), laat zien dat met name voor de kans op werkzaamheid, het opnemen van de aparte opleidingscategorieën tot een beter passend model leidt. Voor de voorspelling van werkloosheidskansen blijkt dit niet het geval. Een kanttekening die bij deze bevindingen moet worden gemaakt is dat de resultaten voor werkzaamheid zijn gebaseerd op grote aantallen respondenten, terwijl het aantal respondenten waarvoor de kans op werkloosheid kon worden berekend veel kleiner is. Bij een groot aantal respondenten is de kans op het vinden van een verbetering in goedpassendheid per definitie groter. Niettemin zijn er aanwijzingen dat het onderscheiden van aparte opleidingsgroepen tot meer realistische resultaten leidt, dan wanneer deze variabele als lineaire meting wordt beschouwd. In het geval van de kans op het hebben van werk betekent dit concreet dat primair opgeleide mannen een bovengemiddeld kleine kans hebben om werkzaam te zijn, wanneer de vergelijking wordt gemaakt met alle overige opleidingscategorieën.

Economisch risico: beroepsstatus en mobiliteit

Wanneer we werkzame laagopgeleide Nederlanders vergelijken met werkzame mensen uit andere opleidingscategorieën, zijn ze dan gemiddeld vaker werkzaam in beroepen met een lagere status (zie hoofdstuk 2), ondervinden ze een grotere kans op neerwaartse mobiliteit (zie hoofdstuk 5) en zijn ze minder vaak opwaarts mobiel (zie hoofdstuk 5)? Verscheidene bevindingen vallen op en de volgende conclusies worden op basis daarvan afgeleid uit de resultaten van hoofdstuk 2 en 5. Allereerst blijken bovengenoemde vormen van economisch risico sterker aanwezig te zijn binnen de lage opleidingscategorieën. Laagopgeleiden bezetten met andere woorden vaker posities op de arbeidsmarkt met weinig status, zijn vaker neerwaarts mobiel, en zijn minder vaak in staat een opwaartse stap op de beroepsladder te maken. Dit geldt voor zowel mannen als vrouwen, het wordt gevonden gedurende de volledige levensloop, en heeft betrekking op alle meetpunten tussen 1977 en 1998. Deze bevindingen zijn zeker niet nieuw.

De beschrijvende tabellen in hoofdstuk 2 en 5 laten echter eveneens zien dat de verschillen in economisch risico tussen primair en lager secondair opgeleiden vrij klein zijn, terwijl het verschil tussen hoger secondair en tertiair opgeleiden juist vrij groot is. Met het toenemend niveau in de opeenvolgende opleidingscategorieën blijft daarom het niveau van economisch risico allereerst vrij hoog of stijgt zelfs iets, waarna het niveau van economisch risico steeds sneller daalt. Op de tweede plaats laten ook de mobiliteitskansen gedurende de beroepsloopbaan zien dat de laagopgeleiden het grootste economische risico lopen. Laagopgeleiden in Nederland hebben de kleinste kans om opwaarts mobiel te zijn gedurende hun beroepscarrière, en de grootste kans om een daling in beroepsstatus te ervaren. Wederom blijkt dat de verschillen in de kans op opwaartse en neerwaartse mobiliteit vrij klein zijn wanneer primair opgeleiden met lager secondair opgeleiden worden vergeleken. De verschillen daarentegen tussen hoger secondair opgeleiden en tertiair opgeleiden blijken relatief groot. De mate van economisch risico neemt steeds sterker af naarmate het niveau van de onderscheiden opleidingscategorie hoger wordt.

Een vergelijking tussen statistische modellen waarin de ene keer een lineaire en de andere keer een categorische meting van opleiding is opgenomen, onderstreept bovenstaande conclusie slechts ten dele. Alleen voor de voorspelling van beroepshoogte blijkt deze non-lineariteit zich te manifesteren in de goedpassendheid van het model met de categorische opleidingsvariabele. Dit model past namelijk niet significant slechter dan het model waarin een lineaire meting van opleiding is opgenomen. Voorts blijken de resultaten voor zowel mannen als vrouwen te corresponderen met het patroon dat hierboven is beschreven. Het aantal respondenten waarop de vergelijking tussen het lineair en het categorisch model is gebaseerd, is echter dermate klein, dat de kans om substantiële verschillen te vinden klein is. De conclusie luidt dat primair opgeleide personen het grootse economische risico lopen wanneer wordt gekeken naar het bereikte beroepsniveau, de kans op neerwaartse mobiliteit en de kans op opwaartse mobiliteit. Bij iedere opeenvolgende stap in niveau van opleidingscategorie neemt het economisch risico in sterkere mate af. In zijn algemeenheid ondervinden de laagopgeleiden de hoogste mate van economisch risico en de opleidingsverschillen volgen zelden een lineair patroon.

Sociaal risico: sociale betrokkenheid van laagopgeleiden

In welke mate verschillen laagopgeleiden van hoogopgeleiden wat betreft de betrokkenheid die ze tonen met de samenleving? Om deze vraag te beantwoorden is in hoofdstuk 6 gekeken naar politieke participatie, politieke interesse, het lezen van de krant, lidmaatschap van maatschappelijke organisaties en het uitvoeren van vrijwilligerswerk voor lokale organisaties. Op ieder van deze indicatoren van sociale betrokkenheid scoren de laagopgeleiden het laagst. Het blijkt daarom dat laagopgeleiden het minst geneigd zijn om middels deze activiteiten interesse in en verbondenheid met de samenleving te vertonen. Dit lagere niveau van sociale betrokkenheid wordt voorts gevonden gedurende de gehele levensloop (leeftijd 20 tot en met leeftijd 60) en gedurende een lange periode (van mensen geboren voor 1940 tot mensen geboren na 1960).

Ook voor sociale betrokkenheid is in hoofdstuk 7 nagegaan in welke mate een categorische behandeling van de opleidingsvariabele tot een andere goedpassendheid van de statistische modellen leidt, dan wanneer opleiding als lineaire meting wordt opgenomen in het model. In het geval van sociale betrokkenheid leveren de categorische modellen geen beter passende resultaten op dan de lineaire modellen. Dit betekent dat op het eerste gezicht met iedere toename in het niveau van de opleidingsgroep, de score op sociale betrokkenheid, met uitzondering van een paar interessante afwijkingen, op gelijkmatige wijze toeneemt. Al met al scoren laagopgeleiden dus minder hoog op de indicatoren voor sociale betrokkenheid dan hoogopgeleiden, maar scoren ze dus niet disproportioneel hoger op de metingen van sociaal risico.

Veranderingen in economisch en sociaal risico voor laagopgeleiden

In deze paragraaf komen de resultaten van veranderingen in economisch en sociaal risico aan de orde. In het eerste hoofdstuk van deze studie zijn twee invalshoeken geïntroduceerd: trends over geboortecohorten en ontwikkelingen gedurende de levensloop. De eerste reden waarom verwacht wordt dat laagopgeleiden tegenwoordig meer moeilijkheden ondervinden dan in het verleden, is omdat hun ‘relatieve positie’ in de maatschappij kan zijn verslechterd. Als gevolg van het feit dat meer en meer mensen hoogopgeleid raakten, in samenhang met het positionele karakter van opleiding, is de verwachting gepostuleerd dat laagopgeleiden in steeds sterkere mate concurrentie zijn gaan ervaren gedurende hun beroepscarrière. Ook in het sociale leven mag worden verwacht dat de laagopgeleiden het tegenwoordig moeilijker hebben dan vroeger: de negatieve connotatie van een gemis aan kwalificaties is tegenwoordig wellicht sterker dan vroeger. Een tweede reden die is aangedragen, luidt dat zowel over geboortecohorten als gedurende de levensloop de compositie van de groep van laagopgeleiden aan ongunstige veranderingen onderhevig zou kunnen zijn. Hier gaat het vooral om het verminderen van het reservoir aan verborgen talenten binnen deze groep en een toenemende overrepresentatie van mensen met een ongunstige sociale achtergrond. Deze veranderingen van de kwaliteit van de groep van laagopgeleiden kan, zo is gesteld, resulteren in een versterkte samenhang tussen opleiding aan de ene kant, en cognitieve

capaciteiten en sociale herkomst aan de andere. Ook is de verwachting uitgesproken dat spreiding van cognitieve capaciteiten en sociale herkomst binnen de groep van laagopgeleiden minder is geworden. De groep zou, met andere woorden, homogener zijn geworden. Voor het levensloopperspectief is echter ook een positief geformuleerde hypothese afgeleid. Hoe verder de beroepscarrière is gevorderd, des te belangrijker wordt werkelijke werkervaring als indicator voor productiviteit, terwijl iemands hoogst behaalde opleidingsniveau minder belangrijk zou worden.

Veranderingen in groepsgrootte, samenhang en compositie

Is de groep laagopgeleiden kleiner geworden in de loop van de tijd, en neemt de groepsgrootte af gedurende de levensloop? Deze vraag is beantwoord in hoofdstuk 2. De resultaten laten zien dat voor ieder opeenvolgend geboortecohort het percentage primair opgeleiden lager wordt. Voorts blijkt eveneens dat binnen ieder geboortecohort het percentage primair opgeleiden ook daalt met de tijd. Deze bevinding wijst erop dat een substantieel deel van de groep van laagopgeleiden alsnog een diploma behaalt tijdens de beroepsloopbaan. In hoofdstuk 5 is deze conclusie nader bevestigd. Een groot deel (ongeveer 30 procent) van alle mensen die de arbeidsmarkt betreden met een lage opleiding, behalen één of meerdere additionele kwalificaties in de tijd dat zij beschikbaar zijn voor de arbeidsmarkt. Al met al is de groep van laagopgeleiden kleiner geworden in de loop van de tijd en neemt de grootte eveneens af gedurende de levensloop. Deze assumptie die is gebruikt om het structurele argument (de concurrentiepositie van laagopgeleiden verslechterd) te onderbouwen, wordt dus niet geschonden.

Welke veranderingen zijn gevonden wat betreft de compositie van de groep van laagopgeleiden? Heeft de toegenomen effectiviteit van het schoolsysteem met betrekking tot het dirigeren van talentvolle jeugdigen naar de hogere opleidingsniveaus ervoor gezorgd, dat de relatie tussen cognitieve capaciteiten en opleiding tegenwoordig sterker is dan vroeger? En in welke mate is het verborgen talent binnen de groep van laagopgeleiden hierdoor schaarser geworden? In welke mate is de samenhang tussen sociale herkomst en opleiding sterker geworden? En in hoeverre is het tegenwoordig waarschijnlijker dan vroeger dat laagopgeleiden een ongunstige sociale achtergrond hebben, zodat de compositie ook wat dat betreft tegenwoordig nadeliger uitvalt? Het blijkt dat de samenhang tussen cognitieve capaciteiten en opleiding stabiel is over geboortecohorten (zie hoofdstuk 3). Er zijn echter wel duidelijke negatieve compositionele veranderingen aan te wijzen. Het gemiddelde niveau van cognitieve capaciteiten daalde en de variantie binnen de groep werd minder. Deze bevindingen betekenen dat de groep van laagopgeleiden in de loop van de tijd een steeds negatievere selectie is geworden met betrekking tot het aanwezige reservoir van cognitieve capaciteiten binnen deze groep. Een wellicht onverwacht gevolg van de onderwijsexpansie is echter ook dat de hogere opleidingsniveaus makkelijker bereikbaar zijn geworden voor wat minder getalenteerde leerlingen, waardoor de groep van hoogopgeleiden juist meer heterogeen is geworden wanneer het gaat om cognitieve capaciteiten. Desalniettemin mag op basis van de beschreven resultaten voor cognitieve capaciteiten worden verwacht dat het economisch en sociaal risico van de laagopgeleiden is toegenomen.

In hoofdstuk 4 zijn verschillende indicatoren van sociale achtergrond onderscheiden, om veranderingen in de relatie met opleiding (dropout zonder een diploma op secondair niveau te hebben behaald), en veranderingen in de compositie van de dropout groep te onderzoeken. Zoals uit eerder onderzoek, waarin lineaire metingen van opleiding zijn gebruikt, ook al blijkt: de samenhang tussen ouderlijke financiële hulpbronnen en schoolverlaten zonder diploma is zwakker geworden in de loop van de tijd. Ook de samenhang tussen ouderlijk opleidingsniveau en dropout van hun kinderen is afgenomen. Ouderlijk cultureel kapitaal en ouderlijke sociale hulpbronnen laten een stabiele samenhang zien met dropout over alle geboortecohorten. Een belangrijke conclusie is dat tegenwoordig vooral cultureel kapitaal en stressvolle familieomstandigheden (scheiding van ouders of het hebben van een erg jonge moeder) belangrijke voorspellers zijn van het risico op dropout. Odds ratio's berekend voor de verschillende geboortecohorten laten voorts in beperkte mate een toenemende nadelige compositie zien voor de dropout groep. Een vergelijking op basis van percentages tussen de dropout groep en de non-dropout groep indiceren slechts dat de compositie van de eerstgenoemde groep op nadelige wijze aan verandering onderhevig is geweest. In vergelijking tot leden van de groep die niet de school hebben verlaten zonder secondair diploma, komen dropouts in toenemende mate uit gezinnen met een lage beroepsstatus, met weinig cultureel kapitaal, met veel broers en zussen, en waar de ouders zijn gescheiden. Samenvattend staan zowel de structurele als compositionele resultaten voor cognitieve capaciteiten en sociale achtergrond de hypothese toe dat laagopgeleiden in de loop van de tijd en gedurende hun levensloop in toenemende mate economische en sociale risico's lopen.

Veranderingen in economisch risico

In hoeverre zijn de verschillen in werkzaamheid en beroepsstatus tussen laagopgeleide en hoogopgeleide mannen en vrouwen veranderd in de loop van de tijd (jaren van meting) en gedurende de levensloop? Hoofdstuk 2 laat zien dat vooral jonge mannen in de leeftijdscategorie 25-34 steeds minder kansen hebben gekregen om werkzaam te zijn in de periode van 1977 tot 1998. Jonge laagopgeleide mannen zijn daarom in toenemende mate kwetsbaar geworden voor een ongunstige start van hun arbeidsmarktcarrière. Deze toegenomen kwetsbaarheid van laagopgeleide ten opzichte van hoogopgeleiden is slechts ten dele het gevolg van een toegenomen concurrentie met een groter aantal hoogopgeleiden. Vooral laagopgeleide mannen die tussen de 24 en 34 jaar oud zijn en lager secondair opgeleide vrouwen tussen de 25 en 54, ondervinden nadelige economische consequenties van de onderwijsexpansie. Met betrekking tot beroepsstatus zijn alleen maar afnemende verschillen tussen laagopgeleiden en hoogopgeleiden gevonden. Dit is in tegenspraak met de uitgesproken verwachting dat het economisch risico voor laagopgeleiden ten opzichte van hoogopgeleiden zou toenemen. De meest plausibele verklaring voor deze bevinding is dat de beroepenstructuur in de loop van de tijd is veranderd. Het aantal banen waarvoor alleen elementaire vaardigheden nodig zijn, is gedaald. Hierdoor scoren de werkzame laagopgeleiden tegenwoordig gemiddeld hoger op de beroepsstatusschaal dan vroeger.

In hoofdstuk is ook een negatieve en een positieve levensloophypothese behandeld. Volgens de negatieve levensloophypothese nemen verschillen in economisch risico tussen laagopgeleiden en hoogopgeleiden toe gedurende de levensloop, terwijl volgens de positieve levensloophypothese deze verschillen juist af zouden moeten nemen. Om na te gaan welke hypothese de realiteit het best verwoordt, zijn de interactie-effecten tussen opleiding en het percentage laagopgeleiden in het jaar van meting (de operationalisatie dus van de structurele veranderingen in de opleidingsverdeling) vergeleken over verschillende leeftijdsgroepen. De levensloophypothesen zijn aldus getoetst door de sterkte van deze interactie-effecten te vergelijken, maar men moet zich wel bedenken dat deze wijze van toetsing alleen een voorlopig antwoord kan bieden. In hoofdstuk 2 zijn de onderscheiden leeftijdsgroepen namelijk pseudo-cohorten. Dit gezegd hebbende, wordt de negatieve levensloophypothese bevestigd als de sterkte van de beschreven interactie toeneemt. Dit is echter niet het geval. Het hoge aantal hoogopgeleiden in het jaar van meting heeft vooral een negatieve invloed op werkzaamheid voor jonge laagopgeleide mannen. Voor de oudere leeftijdsgroepen is dit structurele effect in de meeste gevallen afwezig. Ook voor vrouwen werd het structurele effect niet sterker gedurende de levensloop. Ook voor beroepsstatus contrasteren de bevindingen met de geformuleerde hypothesen. De conclusie luidt daarom dat de economische nadelen verbonden aan een lage opleiding het meest prominent aanwezig zijn in het begin van de beroepsloopbaan. In de vervolgcarrière worden beroepskansen niet verder beperkt als gevolg van een gebrek aan onderwijskwalificaties.

In hoofdstuk 5 is een betrouwbaarder antwoord gegeven op de vraag of economisch risico voor laagopgeleiden toe- of afneemt over geboortecohorten en gedurende de levensloop. De belangrijkste conclusie is dat over geboortecohorten en gedurende de levensloop de verschillen in economisch risico tussen laagopgeleiden en hoogopgeleiden hoofdzakelijk stabiel blijven. De laagopgeleiden lopen een substantieel hoger initieel economisch risico (werkloos worden, neerwaarts mobiel zijn, en minder vaak opwaarts mobiel zijn) dan hoogopgeleiden, maar zijn aan slechts marginale veranderingen in relatieve risico's onderhevig. Er zijn echter twee belangrijke uitzonderingen. Ten eerste wordt de positieve levensloophypothese bevestigd omdat de laagopgeleiden in vergelijking met hoogopgeleiden het grootste risico lopen werkloos te worden in het begin van hun beroepscarrière. Gedurende de levensloop groeien de risico's van beide groepen echter steeds meer naar elkaar toe. Ten tweede zijn vooral laagopgeleide vrouwen onderhevig aan economische marginalisering. Het verschil in de kans op opwaartse mobiliteit, die al aanwezig is in het begin van de beroepscarrière van vrouwen, neemt alleen maar toe gedurende de levensloop. En ook over geboortecohorten neemt het verschil toe in het voordeel van hoogopgeleide vrouwen.

Ter afronding van deze paragraaf kan worden geconcludeerd, dat ondanks dat de structurele en compositionele veranderingen aanleiding geven voor ongunstige ontwikkelingen voor laagopgeleiden over geboortecohorten en gedurende de levensloop, dit slechts ten dele het geval blijkt te zijn. Laagopgeleiden zijn op economisch vlak slechts beperkte mate verder gemarginaliseerd geraakt. Alleen laagopgeleide vrouwen hebben in toenemende mate last van economische risico's. Voor mobiliteitskansen geldt dit zowel over geboortecohorten als gedurende de levensloop. Met betrekking tot kansen op

werkzaamheid en werkloosheid ondervinden zowel mannen als vrouwen het grootste economische risico in het begin van hun beroepsloopbaan. Daarna zijn de relatieve risico's stabiel, of nemen zelfs af.

Veranderingen in sociaal risico

In welke mate is het verschil in sociaal risico tussen laagopgeleiden en hoogopgeleiden in Nederland toegenomen over geboortecohorten en gedurende de levensloop? De belangrijkste conclusie is dat naast de al besproken initiële verschillen in sociale betrokkenheid, de laagopgeleiden vooral met betrekking tot politieke betrokkenheid meer en meer gemarginaliseerd zijn geraakt (zie hoofdstuk 6). Bezien over geboortecohorten daalt de politieke participatie in de vorm van stemgedrag bij parlementaire verkiezingen sterker bij laagopgeleiden dan bij hoogopgeleiden. De mate van politieke interesse van laagopgeleiden blijkt zelfs onderhevig te zijn aan marginalisering, wanneer over de tijd en gedurende de levensloop een vergelijking met hoogopgeleiden wordt gemaakt. Binnen opeenvolgende geboortecohorten zijn laagopgeleiden steeds minder politiek geïnteresseerd en gedurende de levensloop raken laagopgeleiden minder snel politiek geïnteresseerd dan hoogopgeleiden. Wanneer het lezen van de krant als indicator voor sociale betrokkenheid wordt beschouwd, is het plaatje wat gecompliceerder. Laagopgeleiden lezen minder vaak de krant dan hoogopgeleiden, en over geboortecohorten bezien groeien laagopgeleiden en hoogopgeleiden uit elkaar tot en met het geboortecohort 1950-1959. Het jongste geboortecohort daarentegen (geboren na 1960) is weer iets meer sociaal betrokken wanneer het het lezen van de krant aangaat. Zij zijn weer iets meer naar de situatie van de hoogopgeleiden toegegroeid. Gedurende de levensloop is te zien dat de situatie van laagopgeleiden en hoogopgeleiden gelijker wordt. In eerste instantie lezen jonge hoogopgeleiden de krant vaker dan jonge laagopgeleiden. Maar tot aan de leeftijd van 40 jaar pakken vooral de lager secondair opgeleiden het lezen van de krant op, waardoor het verschil tussen deze opleidingsgroep en hoogopgeleiden kleiner wordt. Na de leeftijd van 40 jaar blijven opleidingsverschillen stabiel. Kort en goed lijken de resultaten meer te spreken voor een toenemende sociale marginalisering, dan voor een gelijkblijvend of verminderd sociaal risico. Vooral de mate van politieke betrokkenheid is voor laagopgeleiden aan erosie onderhevig geweest.

Verklaringen voor de relatie tussen risico en een lage opleiding

Een tweevoudige verklaring is in dit onderzoek geïntroduceerd om de verschillen in economisch en sociaal risico tussen laagopgeleiden en hoogopgeleiden beter te begrijpen. Eerst is gekeken of de verschillen tussen de opleidingsgroepen ontstaan omdat laagopgeleiden vaker in sociale milieus opgroeien, waar economische en sociale risico's rechtstreeks van ouders op kinderen worden overgedragen, en indirect via de kleinere kans dat kinderen uit deze milieus een hoger opleidingsniveau bereiken. De vraag is dus, met andere woorden, in welke mate de relatie tussen opleiding enerzijds en sociaal en economisch risico anderzijds, op schijn berust. Ten tweede is nagegaan in welke mate

tussenliggende factoren de relatie tussen opleiding en risico kunnen verklaren. Voor economisch risico zijn cognitieve capaciteiten en het behalen van additionele kwalificaties aangedragen als verklarende factoren. Menselijk kapitaal, arbeidsmarktsucces en de opleiding van de partner zijn gebruikt om de relatie tussen opleiding en sociaal risico te verklaren. Eveneens is de hypothese getoetst dat om economisch en sociaal risico te reduceren, het voor laagopgeleiden belangrijker is om toegang te hebben tot de bovengenoemde hulpbronnen dan voor hoogopgeleiden.

Verklaringen voor economisch risico

Hoe kunnen de verschillen in economisch risico tussen laag- en hoogopgeleiden in Nederland worden verklaard? Hoofdstuk 5 laat ten eerste zien dat de relatie tussen opleiding en economisch risico slechts voor een klein gedeelte berust op schijn. Het beroepsniveau van de ouders beïnvloedt opwaartse mobiliteit direct, en ook indirect via het behaalde opleidingsniveau van hun kinderen. Wanneer rekening wordt gehouden met sociale herkomst, neemt het geschatte verschil in de kans op opwaartse mobiliteit tussen laagopgeleiden en hoogopgeleiden met ongeveer 15 procent af. Na controle voor het ouderlijk beroepsniveau nemen in het geval van de kans om werkloos te worden gedurende de beroepsloopbaan en de kans op opwaartse mobiliteit, de verschillen tussen niet af tussen laag- en hoogopgeleiden. Daarom drukken de economische risico's die laagopgeleiden lopen niet zozeer uit dat ze afkomstig zijn uit sociale klassen waar economische tegenspoed direct en indirect wordt overgedragen van ouders op kinderen. Anders gezegd, laagopgeleiden krijgen niet minder mogelijkheden op de arbeidsmarkt omdat hun opleiding de invloed van een nadelige sociale herkomst in zich meedraagt. De invloed die uitgaat van opleiding is veeleer te vinden in het nut van datgene wat op school wordt geleerd en wat daarom wordt gemist door mensen die niet in staat zijn gebleken een (hoog) diploma te behalen. Ook het stigma dat rust op een lage opleiding zou wel eens een grote rol kunnen spelen. Laagopgeleiden zouden wel eens minder productief kunnen zijn, of als zodanig worden ingeschat. Ook zouden ze tegenwoordig wellicht minder goed in staat kunnen zijn, of werkgevers schatten het tegenwoordig vaker als zodanig in, om de benodigde beroepsvaardigheden aan te leren.

In welke mate kunnen cognitieve capaciteiten en het behalen van additionele kwalificaties de verschillen in economisch risico tussen laagopgeleiden en hoogopgeleiden verklaren? In het geval van werkloos worden en opwaartse mobiliteit is dit alleen het geval voor mannen. In beide gevallen wordt het verschil tussen de genoemde opleidingscategorieën voor ongeveer 20 procent geïnterpreteerd door deze tussenliggende variabelen. Het opleidingsverschil in de kans op neerwaartse mobiliteit wordt voor zowel mannen als vrouwen deels verklaard door cognitieve capaciteiten en additionele kwalificaties. Het gaat hier om ongeveer 20 procent voor het verschil tussen primair opgeleiden en tertiair opgeleiden, en om ongeveer 10 procent wanneer de vergelijking wordt getrokken tussen lager secondair en tertiair opgeleiden. Het economisch risico dat laagopgeleiden lopen is daarom hoger, deels omdat ze een lager niveau van cognitieve capaciteiten hebben en deels omdat ze minder additionele kwalificaties bemachtigen, waardoor ze minder is staat zijn (of worden geacht) benodigde beroepsvaardigheden

onder de knie te krijgen. Een kanttekening is hier echter wel op zijn plaats. Additionele kwalificaties blijken alleen het economisch risico van vrouwen onafhankelijk te beïnvloeden, terwijl cognitieve capaciteiten voor zowel mannen als vrouwen de mate van ervaren economische risico's onafhankelijk beïnvloeden. Het blijkt dus dat cognitieve ontwikkeling, onafhankelijk van iemands opleidingsniveau, wordt beloond op de arbeidsmarkt. Concluderend lijkt voor laagopgeleide mannen hun relatief lage niveau van cognitieve capaciteiten de meest belangrijke verklarende factor te zijn voor het grotere economische risico dat ze lopen, terwijl voor laagopgeleide vrouwen zowel hun gemiddeld lage niveau van cognitieve capaciteiten, als hun gemiddeld minder behaalde additionele kwalificaties, een belangrijke bijdrage leveren aan ons begrip van de door laagopgeleide gelopen economische risico's.

In welke mate is het voor de beperking van economische risico's belangrijker voor laagopgeleiden om een gunstige sociale achtergrond te hebben, om additionele kwalificaties te behalen en om in economisch gunstige tijden te werken dan voor hoogopgeleiden? Het idee achter deze vraag is dat hoogopgeleiden hun diploma hebben als garantie voor arbeidsmarktsucces, terwijl laagopgeleiden juist andere kenmerken moeten hebben, of onder gunstige omstandigheden moeten werken, om zich te kunnen onderscheiden. Allereerst blijkt een gunstige sociale herkomst de kans op neerwaartse mobiliteit sterker te reduceren voor laagopgeleiden dan voor hoogopgeleiden. Ten tweede blijken additionele kwalificaties gemeten als onafgeronde jaren in opleiding eveneens het risico op neerwaartse mobiliteit sterker te beperken voor laagopgeleiden. Ten derde, risico's op werkloosheid worden sterker gereduceerd voor laagopgeleiden dan voor hoogopgeleiden, wanneer ze de additionele training hebben afgerond gedurende de beroepsloopbaan in de vorm van cursussen. Ten vierde verhogen gunstige economische omstandigheden de kans op opwaartse mobiliteit meer voor laagopgeleide vrouwen dan voor hoogopgeleide vrouwen. Een belangrijke conclusie is daarom dat laagopgeleiden zich kunnen weren tegen economische risico's door hun kwalificaties te verbeteren gedurende de loopbaan, door toegang te hebben tot en gebruik te maken van andersoortige hulpbronnen dan opleiding, en door gebruik te maken van gunstige economische omstandigheden.

Verklaringen voor sociaal risico

Hoe kan het verschil in sociaal risico tussen laagopgeleiden en hoogopgeleiden in Nederland worden verklaard? De eerste verklaring die is aangedragen luidt dat laagopgeleiden vaker dan hoogopgeleiden afkomstig zijn uit sociale milieus waar een lager niveau van sociale betrokkenheid direct wordt overgedragen van ouders op kinderen doordat ouders over weinig hulpbronnen beschikken die de sociale betrokkenheid van hun kinderen kunnen bevorderen. Ook gedrag van ouders zelf dat duidt op een relatief laag niveau van sociale betrokkenheid kan een oorzaak zijn van deze directe overdracht. Kinderen imiteren immers hun ouders; goed voorbeeld doet goed volgen. In hoofdstuk 6 zijn ouderlijke financiële hulpbronnen, ouderlijke culturele hulpbronnen en ouderlijk gedrag dat sociale betrokkenheid uitdrukt onderscheiden. Voor politieke interesse en het uitoefenen van vrijwilligerswerk blijkt de relatie met opleiding gedeeltelijk te berusten op

schijn: sociale achtergrond heeft een directe invloed op sociale betrokkenheid en een indirecte invloed via het opleidingsniveau van het kind. Voor politieke interesse wordt daarom het verschil tussen lager secondair opgeleiden en tertiair opgeleiden verklaard voor 34 procent. Voor vrijwilligerswerk wordt het verschil tussen primair opgeleiden en tertiair opgeleiden gereduceerd met 25 procent, terwijl het verschil tussen lager secondair en tertiair opgeleiden zelfs voor 40 procent wordt verklaard. In deze gevallen kan worden geconcludeerd dat opgroeien in gezinnen waar weinig sociale betrokkenheid direct wordt overgedragen van ouders op kinderen, een belangrijke verklaring vormt voor het sociale risico dat laagopgeleiden lopen.

Een gebrek aan menselijk kapitaal, weinig succes op de arbeidsmarkt en het hebben van een laagopgeleide partner, verklaren een groot deel van de verschillen in sociale betrokkenheid tussen laag- en hoogopgeleiden. Van de tien gemodelleerde verschillen tussen laagopgeleiden en hoogopgeleiden (vijf maal primair versus tertiair en vijf maal lager secondair versus tertiair) worden er acht voor minimaal 25 procent verklaard. In zes van de tien gevallen ligt het percentage geïnterpreteerd verband zelfs boven de 40 procent. Cognitieve capaciteiten en de invloed van een hoogopgeleide partner verhogen inderdaad de interesse in wat er gaande is in de samenleving. Een andere interpretatie van de gereduceerde verschillen is dat een succesvolle arbeidsmarktcarrière voldoende financiële middelen en een sociaal netwerk van collega's met zich meebrengt, waardoor de duurdere vormen van sociale betrokkenheid kunnen worden bekostigd en er ook van het collegiale netwerk een stimulans uitgaat om sociaal betrokken te zijn. Omdat laagopgeleiden minder vaak over deze hulpbronnen beschikken, lopen ze een groter risico sociaal minder betrokken te zijn dan hoogopgeleiden.

Vanuit de resultaten met betrekking tot de verschillende invloed van sociale achtergrond en hulpbronnen op sociale betrokkenheid voor laagopgeleiden en hoogopgeleiden, zijn geen rechtlijnige conclusies te trekken. Soms levert een positieve score op deze variabelen een gunstigere uitkomst op voor laagopgeleiden vergeleken met hoogopgeleiden, terwijl in andere gevallen juist de hoogopgeleiden er positiever vanaf komen. Cognitief ontwikkeld zijn en ouders hebben die cultureel actief waren, compenseren de negatieve invloed van een lage opleiding op sociale betrokkenheid. Maar omdat zoals gezegd een aantal resultaten ook de verwachtingen tegenspreken, en er dus geen patroon is te ontwaren uit de uitkomsten, is het trekken van al te ferme conclusies in dit geval niet raadzaam. Samengevat kan worden gesteld dat het relatief lage niveau van sociale betrokkenheid van laagopgeleiden voor een relatief klein deel kan worden verklaard door een directe overdacht van weinig sociale betrokkenheid van ouders op hun kinderen. Belangrijker voor de verklaring is dat laagopgeleiden minder hulpbronnen hebben, zoals een hoog niveau van cognitieve capaciteiten en een succesvolle beroepsloopbaan, die bijdragen aan de persoonlijke ontwikkeling van interesse in en betrokkenheid met wat gaande is in de samenleving.

Geboekte vooruitgang en manieren om in de toekomst verder te komen

Het onderzoek dat in deze studie is gepresenteerd, betekent op diverse wijzen een vooruitgang op eerder onderzoek, maar leidt evengoed tot nieuwe vragen, die in toekomstig onderzoek dienen te worden beantwoord. In de volgende paragrafen worden beide kanten behandeld, door enkele punten aan de kaak te stellen over het onderwerp van deze studie, de theoretische achtergrond, en de gebruikte data en meetinstrumenten.

Aandachtspunten met betrekking tot de aandacht op laagopgeleiden

Een belangrijke reden om dit onderzoek op te starten was omdat in stratificatieonderzoek een expliciete nadruk op laagopgeleiden uitzonderlijk is. De specifieke nadruk op een groep mensen die in de postindustriële samenleving, waar kwalificaties een sleutelrol spelen in de bepaling van kansen die men krijgt, de grootste risico's lopen sociaal en economisch te worden gemarginaliseerd, is daarom als vooruitgang beschouwd. De antwoorden op vragen als 'in welke mate behoren laagopgeleiden meer en meer tot de meest kwetsbare groepen in onze samenleving?' leveren belangrijke houvast om om te gaan met situaties die nadelige gevolgen met zich meebrengen voor zowel individu als samenleving. Dit onderzoek ging dan ook dieper in op belangrijke aspecten van sociale ongelijkheid en sociale cohesie, en gebruikte reeds bestaande kennis over deze onderwerpen om de situatie van laagopgeleiden in Nederland te onderzoeken.

De specifieke nadruk op laagopgeleiden heeft een aantal nieuwe inzichten opgeleverd. Laagopgeleiden ervaren vaak een bovengemiddeld hoge mate van sociaal en economisch risico. Parkin (1991) stelde eens dat het uitoefenen van werk de ruggengraat is van de samenleving. Deze en andere studies geven aan dat opleiding als zenuwstelsel fungeert. De vergelijking tussen de modellen met de verschillende metingen van opleiding lieten zien dat het vaak beter is naar opleidingsgroepen te kijken dan naar opleiding als lineair individueel kenmerk. Dit was vooral het geval voor de voorspelling van economisch risico. En zelfs in de modellen die geen betere resultaten lieten zien voor opleidingsgroepen, bleken de verschillen tussen de opleidingsgroepen toch nog tot interessante, zij het minder definitieve, onderzoeksuitkomsten te leiden. Wat voorts bleek was dat in sommige gevallen de sociale situatie van de laagopgeleiden steeds ongunstiger is geworden, zowel over geboortecohorten als gedurende de levensloop. Met betrekking tot economisch risico bleek dat laagopgeleide vrouwen steeds meer gemarginaliseerd zijn geraakt. Een andere belangrijke bevinding was dat laagopgeleiden wel in staat zijn zich te wapenen tegen economische risico's. Toegang tot andere hulpbronnen, zoals cognitieve ontwikkeling en additionele kwalificaties bleken in dit opzicht van belang, omdat ze de negatieve invloed van een lage opleiding compenseren.

Aan de andere kant bleek dat vooral voor de voorspelling van sociaal risico de specifieke nadruk op laagopgeleiden niet leidde tot substantiële verbetering in de modellen. Dezelfde resultaten zouden met andere woorden ook zijn gevonden als opleiding lineair zou zijn behandeld. Het moge duidelijk zijn dat de benaderingswijze van een probleem afhankelijk is van de vragen waarin een onderzoeker is geïnteresseerd. In het geval van dit onderzoek was een specifieke blik op laagopgeleiden noodzakelijk,

ondanks dat het onderscheiden van opleidingsgroepen niet altijd leidde tot een presentatie van betere empirische modellen.

Een gebied waar toekomstig onderzoek vooruitgang kan boeken, is een meer doortastende vergelijking van sociaal en economisch risico tussen primair opgeleiden en lager secondair opgeleiden. In dit onderzoek zijn ze als aparte opleidingscategorieën beschouwd, maar werden geen theoretische ideeën geformuleerd ter verklaring van deze mogelijke verschillen. Individuen met een lagere beroepsopleiding hebben beroepsvaardigheden op school geleerd, die primair opgeleiden niet op deze wijze hebben opgedaan. Maar als gevolg van de onderwijsexpansie kan het evengoed zo zijn dat de lagere beroepsopleidingen tegenwoordig de grootste instroom krijgen van de minder getalenteerde leerlingen. Enkele bevindingen van dit onderzoek wijzen in deze richting, maar het is zeker de moeite waard om dit punt in de toekomst meer aandacht te schenken.

Een ander gebied voor toekomstig onderzoek is de nadruk op andere kwetsbare groepen, zoals etnische minderheden. Met de toename van het aantal allochtonen in Nederland, en de toenemende mate waarin de groep van laagopgeleiden bestaat uit leden van etnische minderheidsgroeperingen, is dit onderwerp verbonden aan hetgeen in dit onderzoek is uiteengezet en heeft het aan belang gewonnen. Om de negatieve invloed van een gebrek aan onderwijskwalificaties beter te kunnen begrijpen, is het belangrijk om etnische minderheden in toekomstig onderzoek te betrekken. Om dit te kunnen bereiken is het op de allereerste plaats van belang om heel precies vast te stellen hoe de onderwijsloopbanen van etnische minderheden eruit zien. Een deel van, of zelfs de gehele onderwijsloopbaan kan in het land van herkomst hebben plaatsgevonden, en dit werpt problemen op met betrekking tot de vergelijking van loopbanen van allochtonen en autochtonen. Het is voor dit onderwerp voorts ook van belang andere metingen voor economisch, maar vooral voor sociaal risico te gebruiken. Voor economisch risico is het van belang te kijken naar de etnische compositie van het bedrijf waarin iemand werkt. Met betrekking tot sociale integratie is het van belang te onderzoeken hoeveel personen in iemands sociale netwerk niet tot etnische minderheidsgroeperingen behoren.

Theoretische aandachtspunten

Verscheidene theoretische invalshoeken hebben tot vooruitgang geleid op het gebied van sociale stratificatie en binnen het onderzoeksveld dat de relatie tussen arbeidsmarktkansen en sociale uitsluiting centraal stelt. Ten eerste werden, naast de veranderingen in de relatie tussen opleiding en individuele kenmerken, ook compositionele veranderingen van de groep van laagopgeleiden voor cognitieve capaciteiten en sociale achtergrond, in de theoretische argumentatie betrokken om veranderingen in sociaal en economisch risico te voorspellen. ‘Stigmatization by negative selection’ werd door Solga (2002) reeds uitgewerkt voor sociale achtergrond, om afnemende arbeidsmarktkansen van laagopgeleiden te verklaren. Door ook naar sociaal risico te kijken en door compositionele veranderingen vast te stellen met betrekking tot cognitieve capaciteiten, is dit theoretische perspectief verbreed. Ten tweede besteedde dit onderzoek zowel aandacht aan de mogelijkheid dat er een schijnrelatie bestaat tussen opleiding en risico, als aan enkele factoren die het verband tussen beide kunnen interpreteren. Vooral in het onderzoek naar

armoede en in het onderzoek dat arbeidsmarktkansen relateert aan sociale uitsluiting, wordt de mogelijkheid van schijnverbanden vaak niet onderzocht. Ten derde introduceerde deze studie nieuwe hypothesen om het hoge niveau van economisch en sociaal risico van laagopgeleiden te verklaren. Additioneel menselijk kapitaal werd naar voren geschoven om een beter begrip van economisch risico te verkrijgen, en een gebrek aan arbeidsmarktkansen, additioneel menselijk kapitaal, en de opleiding van de partner werden geïntroduceerd om hun relatief hoog niveau van sociaal risico te verklaren. Vooral de verklaring van sociaal risico door arbeidsmarktkansen als verklarende variabele te beschouwen, heeft de aparte onderzoeksvelden van sociale stratificatie en kwetsbare groepen met elkaar in verband gebracht.

Er zijn verschillende manieren om de verklaring van sociaal en economisch risico te verbeteren. Vooral het feit dat sociaal en economisch risico niet wordt ingegeven door individuele kenmerken, maar ook door diverse contextuele aspecten, kan tot vooruitgang leiden. Daarom volgt nu een korte bespreking van deze verschillende contexten. Ten eerste kunnen laagopgeleiden in sommige landen beter beschermd zijn tegen economisch risico dan in andere landen. De mate waarin binnen landen vakbonden invloed kunnen uitoefenen en de mate waarin binnen landen collectieve arbeidsovereenkomsten opgeld doen, zijn goede voorbeelden van mogelijke verklaringen op het landsniveau. Ook kunnen landenvergelijkingen tot een beter begrip leiden van selectie- en allocatie mechanismen op de arbeidsmarkt. In sommige landen zijn laagopgeleiden wellicht meer onderhevig geweest aan negatieve selectiemechanismen dan in andere landen. In dit opzicht is het ook interessant om verschillen tussen landen te bestuderen in de efficiëntie van de onderwijssystemen waarmee zij getalenteerde leerlingen laten doorstromen naar de hogere onderwijsniveaus, en de mate waarin het schoolsysteem bijdraagt aan de instandhouding van intergenerationele sociale ongelijkheid.

Ten tweede bepaalt de buurt waarin men woont voor een belangrijk deel het sociale netwerk waarover men beschikt. Het is wellicht het geval dat in de buurten waar laagopgeleiden het vaakst wonen, de buurtbewoners relatief weinig hulpbronnen hebben die kunnen worden ingezet ter verbetering van iemands werksituatie, en relatief weinig interesse tonen in wat er omgaat in de samenleving. Dit zou vooral wel eens het geval kunnen zijn in sterk gesegregeerde gebieden, waar mogelijk zelfs tegengestelde normen over werkzaamheid en sociaal gedrag kunnen ontstaan. Om dezelfde redenen is het eveneens interessant te kijken op regionaal en gemeentelijk niveau. Daarnaast kunnen woonkenmerken van laagopgeleiden eveneens een licht werpen op de gevolgen van een gebrek aan kwalificaties. Andere dan in dit onderzoek besproken aspecten van het sociale netwerk verdienen meer aandacht. In dit onderzoek is alleen gekeken naar de opleiding van de partner en de aanwezigheid van kinderen als onderdeel van het gezin van de laagopgeleide. Of de partner werkt, welke kenmerken de baan van hem of haar heeft, het totale familie-inkomen, en allerlei soorten van vrijetijdsbesteding die worden ondernomen met het gezin, zijn ook van belang mee te nemen in onderzoek dat de sociale betrokkenheid van laagopgeleiden centraal stelt. Daarnaast hebben door een gebrek aan data niet alle actoren in iemands sociale netwerk aandacht gekregen. Als gevolg van verschillen in beroepscarrières en vrijetijdsbesteding hebben laagopgeleiden een kleinere kans om hulpbronnenrijke vrienden en collega’s te hebben dan hoogopgeleiden. De

netwerkverklaring voor sociaal risico kan daarom worden uitgebreid door een bredere definitie van sociale netwerken te hanteren.

Aandachtspunten met betrekking tot data en meetinstrumenten

De familie-enquête Nederlandse bevolking 2000, het databestand waarmee een belangrijk deel van de analyses is uitgevoerd, bevat vragen die specifiek voor dit onderzoek zijn ontwikkeld. Deze unieke dataset met retrospectieve informatie maakte het mogelijk om levensloopontwikkelingen en historische trends gelijktijdig te onderzoeken. De combinatie van beide perspectieven is een vooruitgang op de gebieden van sociale stratificatie en sociale cohesie. Ook maakte de retrospectieve wijze van ondervraging het mogelijk om event-history modellen te schatten voor economisch risico, en multilevel modellen voor sociaal risico. In beide gevallen leidde het vaststellen van de persoonlijke levensloop tot de schatting van accurate modellen waarin de causale volgorde van levensgebeurtenissen duidelijk was.

Er kan natuurlijk ook een aantal nadelen worden verbonden aan dit type onderzoeksopzet. Retrospectieve vragen leiden altijd in meer of mindere maten onder het probleem van selectieve herinnering, vooral wanneer mensen vragen moeten beantwoorden die gaan over het verre verleden. Een panelopzet zou het probleem van selectieve herinnering oplossen, omdat dan heel precies wordt vastgesteld wanneer een persoon een levensgebeurtenis meemaakt, of wanneer ze veranderen in houding of gedrag. Panels hebben daarentegen weer te leiden onder selectieve uitval van panelleden, en vanwege het prospectieve karakter van panel kunnen meestal slechts korte levensgeschiedenissen van mensen worden gemodelleerd. Eveneens is het niet duidelijk in welke mate problemen door selectieve herinnering de resultaten van multivariate analyses vertekenen. Als de problemen met selectieve herinnering systematisch zijn, wat in het geval van dit onderzoek bijvoorbeeld het geval zou zijn wanneer laagopgeleiden meer moeite hebben hun levensloop te reconstrueren dan hoogopgeleiden, dan kan een vertekening optreden. Dit is zeker niet onrealistisch, maar het is niet mogelijk geweest dit te onderzoeken. Het is in zijn algemeenheid aan te raden te investeren in onderzoek dat een antwoord zoekt op deze vragen. Een andere manier om het voorliggende onderzoek te verbeteren is de combinatie van verschillende retrospectieve surveys. Hierdoor zijn ‘power problemen’, oftewel te weinig voorspellende kracht hebben tijdens de analyses als gevolg van te kleine aantallen respondenten, minder sterk aanwezig. Ook dit onderzoek heeft hier en daar onder deze power problemen geleden.

Een aantal punten zijn een vermelding waard wanneer het gaat om de meetinstrumenten die voor dit onderzoek zijn opgenomen in de vragenlijst. Het opnemen van additionele training betaald door de werkgever, persoonlijk betaalde training en avondschool verbeterden de verklaring van arbeidsmarktrisico. De retrospectieve wijze van bevraging van deze vormen van menselijk kapitaal heeft tot nieuwe inzichten geleid op het gebied van sociale stratificatie. Het gaat hier vooral om de bevindingen dat alleen vrouwen profiteren van additionele training, en dat het in vergelijking met hoogopgeleiden belangrijker is voor laagopgeleiden om er beschikking over te hebben. Ook de opname van cognitieve capaciteiten in de vorm van een woordenschattest kan

worden beschouwd als een vooruitgang. Het gebeurt niet al te vaak dat zowel opleiding als een meting voor cognitieve capaciteiten in hetzelfde model ter verklaring van sociaal of economisch risico worden opgenomen. Beide variabelen bleken vaak onafhankelijk van elkaar in staat economisch en sociaal risico te voorspellen. Tot slot kan de retrospectieve opname van sociale betrokkenheid als innovatief worden beschouwd op het gebied van sociale cohesie. Door het op leeftijd 20, 30, 40, 50 en 60 te meten, werd een reconstructie van de individuele sociale levensloop mogelijk. Er zijn natuurlijk nadelen verbonden aan deze meetwijze van sociale betrokkenheid. Deze zullen in de volgende alinea worden besproken. Desalniettemin heeft het onze kennis omtrent de verklaring van sociaal risico vergroot.

In toekomstig onderzoek zou de oplossing van een aantal problemen met de meting van variabelen tot een beter begrip van sociaal en economisch risico kunnen leiden. Ten eerste zouden meer en betere metingen van arbeidsmarktsucces en sociale uitkomsten tot interessante nieuwe bevindingen kunnen leiden. Om te onderzoeken of ongunstige arbeidssituaties blijvend zijn, zou men bijvoorbeeld kunnen denken aan de duur van werkloosheids- of arbeidsongeschiktheidsepisodes, maar ook de vraag of men met een inkomen onder de armoedegrens moet leven is belangrijk voor toekomstig onderzoek. Daarnaast zijn er vele onaantrekkelijke banen aanwezig op bepaalde delen van de arbeidsmarkt, zoals de secondaire arbeidsmarkt of binnen de industriële sector, waar werkomstandigheden misschien niet zo prettig zijn. Deze banen kunnen tijdelijk zijn, onderbetaald, ongezond, eentonig, en bieden wellicht geen mogelijkheden op autonomie en persoonlijke ontwikkeling. Ook zouden deze banen meer dan andere banen wel eens onder een grote mate van tijdsdruk moeten worden uitgeoefend. Ook verschillen tussen bedrijven zijn interessant om in toekomstig onderzoek aan de kaak te stellen. Een hypothese zou kunnen zijn dat laagopgeleiden vooral in die bedrijven werken waar de aangeboden primaire en secondaire arbeidsvoorwaarden relatief ongunstig zijn. Ook bij de bestudering van sociale uitsluiting kunnen andere en betere metingen een bron van vooruitgang vormen in toekomstig onderzoek. Men zou kunnen denken aan het aantal vrienden en kennissen dat iemand heeft en aan het niveau van menselijk kapitaal in iemands netwerk. Ook het opnemen van subjectieve metingen als gevoelens van eenzaamheid, of objectieve metingen als depressiviteit en gezondheid zijn interessant. Maar vooral de accumulatie van sociale problemen is van belang te onderwerpen aan onderzoek. Is het zo dat laagopgeleiden op meerdere indicatoren van sociaal risico tegelijkertijd ongunstig scoren? Veel vooruitgang kan worden geboekt wanneer sociaal risico multidimensioneel wordt gemeten met sterkere indicatoren. Tot slot, de opname van verbale capaciteiten als indicator van cognitieve capaciteiten kan op zichzelf worden gezien als vooruitgang, maar de beschikking over een meting van initiële cognitieve capaciteiten naast deze ontwikkelingsmaat zou tot scherpere conclusies hebben geleid. Desalniettemin is aangetoond dat additioneel menselijk kapitaal een belangrijke factor is voor ons begrip van het sociaal en economisch risico dat laagopgeleiden in Nederland lopen.

Wanneer de belangrijkste resultaten van dit onderzoek nog eens op een rijtje worden gezet, hoe kan de situatie van de laagopgeleiden in Nederland dan worden samengevat? Het is inderdaad het geval dat laagopgeleiden de grootste economische en

sociale risico's lopen, en vooral in het geval van ongunstige arbeidsmarktmogelijkheden lopen laagopgeleiden een bovengemiddeld hoog risico. En hoewel de laagopgeleiden niet minder sociaal betrokken zijn dan dat op basis van lineariteit zou mogen worden verwacht, scoren ze desalniettemin steeds het laagst op iedere indicator van sociale betrokkenheid. Laagopgeleiden behoren daarom tot een sociaal kwetsbare groep. De situatie van laagopgeleiden is niet drastisch verslechterd, niet over geboortecohorten en ook niet gedurende de levensloop. Er zijn echter twee belangrijke uitzonderingen. Op economisch gebied zijn laagopgeleide vrouwen meer gemarginaliseerd geraakt, en op het gebied van sociale betrokkenheid zijn zowel mannen als vrouwen tegenwoordig minder betrokken bij en geïnteresseerd in de politiek. De belangrijkste reden van de economische en sociale risico's die laagopgeleiden lopen, zit hem in de moeilijkheden die ze ondervinden om hulpbronnen te produceren en te accumuleren gedurende de levensloop. Aangezien laagopgeleide mannen en vrouwen een gebrek hebben aan cruciale hulpbronnen zoals cognitieve ontwikkeling, additionele training, arbeidsmarktsucces en een hulpbronnenrijke partner, volgt hun economische en sociale carrière een minder gunstig patroon. Wanneer laagopgeleiden daarentegen in staat zijn hun cognitieve capaciteiten te ontwikkelen en additionele kwalificaties te behalen gedurende hun beroepsloopbaan, dan wordt de ongunstige invloed die uitgaat van hun gebrek aan opleiding aanzienlijk gecompenseerd.

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Curriculum vitae

Maurice Gesthuizen was born on 20 April 1977 in Millingen aan de Rijn, the Netherlands. He studied sociology at the University of Nijmegen from 1995 to 1999. In 1997 and 1998 he was a research assistant in a scientific project on non-voting behavior, where he prepared various international datasets for multivariate analyses. In 1998 he did an internship at the 'Universitaire Instelling Antwerpen' in Belgium, where he calculated weight coefficients for the sixth wave of the Belgium Household Panel. After finishing his Master's degree in 1999, he became a Ph.D. student at the Interuniversity Center for Social Theory and Methodology (ICS) and the Department of Sociology, University of Nijmegen. While writing this dissertation, he also participated in the ICPSR summer school, Ann Arbor Michigan, United States of America, where he followed courses on event-history analyses and maximum likelihood estimations. He also was a guest lecturer at Wageningen University, the Netherlands, and a visiting fellow at the Max Planck Institute of Human Development, Berlin, Germany, where dr. Heike Solga was his host. He is currently working as a scientific researcher at the Social and Cultural Planning Office, as a member of the 'Labor, Income, and Social Security' research group.

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